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TABLE OF CONTENTS

RIGHT TO HEALTH UNDER INTERNATIONAL ENVIRONMENTAL JURISPRUDENCE

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Introduction

Since the fundamental and dreadful truth of human vulnerability sits at the core of the concept of health, it is a complicated topic that touches on significant and unresolved medical, ethical, and legal issues.[1] However, the concept of the right to health is relatively recent, having been derived from the aspirational language of international human rights agreements and developing distributive justice philosophies. However, the emergence of environment as one of the determinants of human health forces the actors of International arena to consider the impact of environment on human health right by recognising the duties of the States in protecting health rights under various international environmental instruments such as Stockholm Declaration, 1972, UN Convention on the Law of the Sea, 1982, Rio Declaration, 1992, Millennium Development Goal 2000, and Sustainable Development Goal, 2015. This Article will explain how these abovementioned instruments is critical in recognizing right to health under the international environmental jurisprudence. Further, the Article will highlight the emergence and development of the ecological model of defining health by considering the environment at the centre of it. In addition, this article will try to suggest the way forward for realizing right to health by considering the environmental aspect of it.

General Recognition of Right to Health

It's interesting to note that in the proposed preamble of the WHO's Constitution, the word "right to health" appeared for the first time. Nevertheless, the phrase "right to health" was referenced as "the right to the greatest attainable quality of health" in the final draught, which was submitted by the Preparatory Committee to the Economic and Social Council of the UN.[2] The 1948 UDHR identified health as a component of the right to an adequate

[1] Pavlos Eleftheriadis, *A Right to Health Care*, 40(2) JLME 268 (2012).
[2]BENJAMIN MASON MEIER, THE HIGHEST ATTAINABLE STANDARD: THE WORLD HEALTHORGANIZATION, GLOBAL HEALTH GOVERNANCE, AND THE CONTENTIOUS POLITICS OF HUMAN RIGHTS (Columbia University, 2009).

 ISSN: 2456-4605(O)

standard of living in Article 25.[3] As a result, it guarantees the right to a level of living that is appropriate for one's health and well-being, including housing and access to healthcare, as well as the right to security in the event of illness, disability, etc.[4] When this provision is carefully reviewed, it becomes evident that it applies to both governmental health systems and private health services, the latter of which includes social interventions for public health.[5]

The International Covenant on Economic, Social, and Cultural Rights (ICESCR) was also adopted by the United Nations General Assembly to address economic, social, and cultural rights under international human rights law. All people have the right to the best possible quality of physical and mental health, according to Article 12 of the ICESCR. It states:

> The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.

The term "highest attainable standard" of health is first used in the WHO Constitution, which ensures the reasonability of the required level. The State must contribute to levelling the social playing field in health, but some factors are beyond its control, necessitating international cooperation and support for the right to health. The greatest feasible norm will certainly increase over time in response to developments in medical as well as demographic, epidemiological, and economic changes. According to Article 12(2), States Parties are obligated to take particular steps to improve the health of their citizens, including putting in place systems that ensure everyone has access to healthcare equally and quickly. According to Article 12(2)(c), the actions that the States parties to the present Covenant must take in order to fully realise this right include those necessary for the prevention, treatment, and control of epidemic, endemic, occupational, and other diseases. Further Article 12(2)(d) provides that the steps that must be taken by the States parties to the current Covenant in order for this right to be fully realised include those required for the establishment of circumstances that would guarantee access to all medical services and medical attention in the case of illness. The ICESCR is therefore of a constructive nature and places obligations on the State parties. In order to fully realise the aforementioned right,

[3]Hurst Hannum, *The Status of the Universal Declaration of Human Rights in National and International Law*, 25 GA. J. INT'L & COMP. L. 287 (1995).
[4]Court on its Own Motion v. Union of India, 2012 (12) SCALE 307.
[5]Lawrence O. Gostin, et. al., *70 Years of Human Rights in Global Health: Drawing on a Contentious Past to Secure a Hopeful Future*, 392 LANCET 2731, 2732 (2018).

the ICESCR requires the States parties to establish the conditions necessary to guarantee that everyone has access to medical care in the event of disease.[6] The government must provide for fundamental needs including food, nutrition, medical care, hygiene, etc. and work to enhance public health.[7]

Stockholm Declaration, 1972

The Conference on the Human Environment, held from June 5 to 16, 1972, in Stockholm, was the most fruitful international conference in recent memory in many ways.[8] In addition to approving a fundamental Declaration and a thorough resolution on institutional and financial arrangements over the course of two weeks, it also approved 109 recommendations that make up an extensive action plan.[9] The Declaration placed particular emphasis on how industrialization and economic progress have increased pollution levels, depleted precious natural resources, and upset the ecological balance.[10] The Declaration contains a set of common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment. It offers the first worldwide set of guidelines for upcoming global environmental cooperation. In the past, there was less of a connection between the environmental data collecting and the preservation of the environment as a whole; instead, it was more concerned with development than preservation. Before the Stockholm Conference, the subject did not receive the attention it deserved. Through this Conference, monitoring became one of the focal themes of the Action Plan, and each state is now obligated to assist the creation of global monitoring systems by international organisations. Beyond what is already required by international law, it also acknowledges the need for states to share information on the environmental impacts of their big initiatives.[11] With respect to health issues, the Stockholm Conference proclaims that the majority of environmental issues in poor nations are brought on by underdevelopment. Millions of people continue to live in extreme poverty, lacking access to appropriate food, clothing, shelter, education, health care, and sanitary conditions. As a

[6]S. J. Rajalakshmi v. Customer Services, Air India Limited, 2020 (1) AKR 269.
[7]ABC v. Bihar State Aids Control Society, 2020 (3) PLJR 420.
[8] Louis B. Sohn, *The Stockholm Declaration on the Human Environment*, 14(3) HARV. INT'L L.J. 423, 423 (1973).
[9] UN Conference on the Human Environment, U.N. Doc. A/CONF.48/4.
[10] Malavika Rao, *ATWAIL Perspective on Loss and Damage from Climate Change: Reflections from Indira Gandhi's Speech at Stockholm*, 12 ASIAN JIL 63, 70 (2022).
[11] Ludwik A. Teclaff, *The Impact of Environmental Concern on the Development of International Law*, 13(2) NAT 357, 366 (1973).

 ISSN: 2456-4605(O)

result, developing nations must focus on growth while keeping in mind their goals and the need to protect and enhance the environment.[12]

Through this declaration, the environment has been acknowledged for the first time in the global arena as the cause of underdevelopment and the lack of sufficient health and sanitation. This proclamation's analysis in light of Article 25 of the UDHR demonstrates that unless the States take action to address environmental issues, citizens will not be able to exercise their right to a standard of living sufficient for his or her own health and the welfare of his or her family. By stating in Principle 7 of the Stockholm Conference that "States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea", the Stockholm Conference sought to achieve this goal. Although this clause focuses primarily on the marine environment and the health risks it poses, it has wider ramifications for the establishment of health rights in subsequent environmental agreements.

The Stockholm Conference recommended that nations work together to advance international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities under such States' jurisdiction or control to areas beyond their jurisdiction in order to secure these aspects.[13] The entire Stockholm Conference must also be taken into consideration as a further contribution to ecological consciousness due to its widespread success, as indicated, for example, by the increase in the number of Environment Ministries since 1972. To encourage environmental activities and cooperation within the United Nations Organization, the United Nations Environment Programme (UNEP), which is now well-known and was positioned as the environmental conscience of the United Nations system, was suggested.[14]

UN Convention on the Law of the Sea, 1982

All maritime and oceanic operations are governed by the 1982 United Nations Convention on the Law of the Sea. The freedom of high seas fishing is now abolished by this Convention. It covers the rights and duties that various nations have in connection to the use of the seas, the seabed and its riches, and the preservation of the marine environment.

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12 Declaration on the Human Environment, 1972, Proclamation 4.

13 Id., Principal 7.

14 Vol. VIII, Philippe Boudes, *United Nations Conference on the Human Environment* in J. NEWMAN, GREEN ETHICS AND PHILOSOPHY - THE GREEN SERIES : TOWARD A SUSTAINABLE ENVIRONMENT, 410, 413 (Sage, 2011).

It delineates the oceanic areas over which countries with coastlines have sovereignty, rights, or control, including the right to extract and manage resources through commercial fishing and oil exploration. It also describes the rights that nations have in the "zones" of other countries, such as the rights to navigation, research, and cable laying, as well as the rights that all nations have in the parts of the ocean that are not under the exclusive control of any one country. The 1982 Convention on the Law of the Sea primarily establishes 12 nautical miles as the breadth of the territorial sea and grants other states the right of innocent passage through these waters.[15] A significant shift from unilateralism to multilateralism in the development of marine law is the Convention's main idea.[16]

Similar to the Stockholm Declaration, this 1982 Convention lists health as one of the major areas that calls for governmental protection. It specifies that the coastal State shall have exclusive jurisdiction over such artificial islands, installations, and structures, including exclusive control over laws and regulations relating to customs, finances, health, safety, and immigration.[17] As a result, this Convention guaranteed the States' sovereign status with regard to the protection of health and turned it into a forum for international cooperation. The Convention clearly states that a State shall give other States a reasonable opportunity to obtain from it, or with its assistance, information required to prevent and control harm to people's health and safety, as well as to the maritime environment, when applying this Part.[18]

Rio Declaration, 1992

The Rio de Jenerio Earth Summit, also known as the United Nations Conference on Environment and Development, was a significant international event that took place in Rio de Jenerio from June 3 to June 14, 1992. The World Summit on Sustainable Development in 2002 and the Kyoto Protocol are two long-term reports and implementation plans that came out of the Earth Summit in 1992 and are still followed as standards for international environmental action today. The theme of the 1992 conference, which contrasted ecology with development, prompted the reunification of seemingly contradictory goals. Although it is true that the debate received more attention in Rio than it did in Stockholm, it is perhaps less well known that the debate twenty years earlier was largely influenced by a

15 United Nations Convention on the Law of the Sea, 1982, Article 3.
16 Bernard H. Oxman, *The Rule of Law and the United Nations Convention on the Law of the Sea*, 7 EUR. J. INT. LAW 353, 356 (1996).
17 Convention on the Law of the Sea, 1982, Article 60(2).
18 Id., Article 242(2).

 ISSN: 2456-4605(O)

disagreement between industrialised and developing countries over potential conflicts between development and environmental agendas.[19] According to its definition, "sustainable development" is growth that satisfies present demands without jeopardising the ability of future generations to satiate their own needs. When applying this concept of sustainable development, there is a fundamental problem with the operational reality of determining the "sustainability" of a given plan, whether it be a specific infrastructure project, like a large dam, or a more general development policy or programme.[20] Since Stockholm, there hasn't been much development in the domain of international law that governs liability for harm brought on by cross-border contamination, the only topic addressed by Principle 22 as stated.

The Rio Declaration's Principle 1 indirectly refers to a substantive need requiring a least sufficient environment, although that provision falls far short of explicitly enshrining such a right, according to international jurisprudence. Instead, the entire Rio Declaration rejects what may be perceived as a compromise between a developing right to the environment and consideration of development imperatives included in the Stockholm Declaration. As an alternative, Principle 1 states that people have a right to live a healthy, productive life in harmony with the environment. This statement implies that environmental measures for the enjoyment of health as a right are driven by people's needs. In a similar vein, it states that in order to fairly meet the developmental and environmental demands of both present and future generations, the right to development must be realised.[21] Furthermore, Principle 14 stipulates that States should work together effectively to deter or stop the relocation and transfer of any activities and chemicals that seriously degrade the environment or are found to be detrimental to human health to other States. Thus, this clause makes it abundantly obvious that any activity that harms the environment has an immediate impact on people's health, proving that the environment is one of the factors that determine a person's right to health.

Furthermore, Agenda 21 urges the integration of elements influencing resource management, poverty, and policies promoting development. It is necessary to increase access to education, healthcare, clean water, and sanitation in order to accomplish this

[19] David A. Wirth, *The Rio Declaration on Environment and Development: Two Steps Forward and One Back, or Vice Versa*, 29 GA. L. REV. 599, 607 (1995).
[20] Gunther Handle, *Controlling Implementation of and Compliance with International Commitments: The Rocky Road from Rio*, 5 COLO. J. INT'L ENVTL. L. & POL'Y 305, 312 (1994).
[21] Rio Declaration on Environment and Development, 1992, Principle 3.

goal.[22] Para 5 of the Agenda states: Health services should "include women-centred, women-managed, safe and effective reproductive health care and affordable, accessible services, as appropriate, for the responsible planning of family size..." In order to stabilise the global population at a level that can be sustained at the end of the century, health services must place a strong emphasis on reducing infant mortality rates, which converge with low birth rates. According to Agenda 21, all people were to have their basic health needs covered and any necessary specialised environmental health services given. Collaboration between the general public and the health sector was necessary to address health challenges.[23] It states that in order to achieve health service coverage, consideration should be given to the demographic groups with the greatest needs, particularly those living in rural areas. Agenda 21 must incorporate therapeutic and preventive methods to address these problems due to the risks to public health caused by environmental degradation and the dangers to metropolitan areas.[24]

Millennium Development Goals

The Millennium Development Goals (MDGs)[25] arose from the gathering of world leaders in New York in September 2000. These ambitious goals, which include putting an end to extreme poverty, lowering maternal mortality by 75%, providing universal primary education, and halting the spread of HIV/AIDS, are anticipated to be achieved by the end of 2015.[26] While outlining potential trade, aid, and debt reduction commitments from wealthy nations, the MDGs also helped poor countries.[27] Lowering infant mortality rates is the MDG's Goal 4, enhancing maternal health is the MDG's Goal 5, and eliminating diseases like HIV/AIDS, malaria, and other ailments is the MDG's Goal 6. These goals include sensible targets and indicators when it comes to the health industry. Goal 4 has only one goal: between 1990 and 2015, reduce under-five death rates by two-thirds.[28] Specifically, Goal 5 aimed to reduce the maternal mortality ratio by 75 % by 2015[29] and to

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22 Agenda 21, Paragraph 3.

23 Sougata Talukdar,

24 *Id.* Paragraph 6.

25 United Nations Millennium Declaration was adopted by the General Assembly on September 8, 2000.

26 Mickey Chopra & Elizabeth Mason, *Millennium Development Goals: Background*, 100(Suppl 1) ARCH. DIS. CHILDH. s2 (2015).

27 Donatus E. Okon & Joseph Kinuabeye Ukwayi, *Challenges and Prospects of the Millennium Development Goals (MDGS) in Nigeria*, 11(2) GLOB. J. SOC. SCI. 119, 120 (2012).

28 United Nations Millennium Declaration 2000, Goal 4, Target 4A.

29 *Id.*, Goal 5, Target 5A.

 ISSN: 2456-4605(O)

achieve universal access to reproductive health[30]. Further, Goal 6 has three targets: (i) to halt by 2015 and have started to reverse the spread of HIV/AIDS,[31] (ii) to achieve global access to treatment for HIV/AIDS for those who need it by 2010,[32] and (iii) to have ceased and started a reversal of the incidence of malaria and other major diseases by 2015[33].

The truth about MGDs is that it took years to reach an international agreement on a common development agenda, and then additional years to put the concepts into practise and achieve political traction.[34] Since the bulk of health initiatives, in the opinion of many academicians, would first largely benefit the wealthier parts of society, leading to a tendency to overlook the health of the rural populations. Many academicians saw this purpose as a drive towards non-egalitarian results. Numerous academicians have also argued that the MDGs are insufficient due to their limited focus on just three aspects of health and the absence of an overarching goal of "freedom from illness."[35] Others emphasise how important it is to include developing effective healthcare systems and incorporating qualified healthcare staff into its list of objectives.[36] It has been discovered that a number of health conditions, including non-communicable diseases, mental health, and difficulties faced by persons with disabilities, are under-recognized. Because the majority of health initiatives under the MDGs will first target the more affluent sections of society, they may potentially contribute to unequal outcomes.[37] As a result, the situation of the underprivileged is unchanged and unaddressed.

Sustainable Development Goals

The term "sustainable development" started to be used in policy circles after the Brundtland Commission's report on the state of the world's environment and development was published in 1987. The biggest acknowledgement of sustainable development came with the approval of the Sustainable Development Goals in September 2015. It also goes with the name Agenda 2030. The choice of indicators was hotly debated, and it was questioned

30 *Id.*, Target 5B.
31 *Id.*, Goal 6, Target 6A.
32 *Id.*, Target 6B.
33 *Id.*, Target 6C.
34 John W. McArthur, *The Origins of the Millennium Development Goals*, 34(2) SAIS REV. 5, 22 (2014).
35 J. James, *Misguided Investments in Meeting Millennium Development Goals: A Reconsideration Using Ends-based Targets*, 27(3) THIRD WORLD Q. 453, 456 (2006).
36 M. Keyzer & L. Van Wesenbeeck, *The Millennium Development Goals, How Realistic Are They?*, 154 ECONOMIST 443 (2006).
37 D.R. Gwatkin, *How much would Poor People Gain from Faster Progress towards the Millennium Development Goals for Health?*, 365(9461) LANCET 813 (2005).

whether they could be measured accurately. In the end, it evolved into the final 17 Sustainable Development Goals (SDGs). These SDGs aim to protect the environment, eradicate poverty, and achieve socioeconomic inclusion so that people can live in dignity. The third of these 17 aims, which is represented through 9 targets and 4 implementation modalities, is largely concerned with "ensuring healthy lifestyles and fostering well-being for all at all ages."[38] Thus, it covers several groups of targets, related to the unfinished MDG agenda (e.g., maternal and child health and communicable diseases); new targets including non-communicable diseases and social determinants, and targets related to health systems and universal health coverage.

Thus, it combines two main ideas (i) health is a universal right, but it is also an insurance capital that allows the settlement of the sustainable development of nations; and (ii) welfare is a state-related to different physical or psychological factors considered separately or jointly. In addition to these, ten of the other sixteen goals also include health-related indicators, such as those that directly link to health services, health outcomes, and environmental, occupational, behavioural, or metabolic risks with known causal connections to health.[39] In contrast to the MDGs, whose approach was sectorial in nature, the advanced SDGs strive to incorporate the economic, social, and environmental challenges faced by the people and take these into consideration in an integrative context. As a result, the SDGs are more aspirational than the MDGs. The SDGs also sought to reduce inequality within and between countries.[40] Thus, international initiatives, state implementation mechanisms, and civil society monitoring are required to secure a better future for the world's population, including the full realisation of their right to health.

Ecological Model of Health: An Influence of Environmental Jurisprudence

The modern environmental movement in western countries at the beginning of the 1970s gave rise to the ecological or relative conceptions of health.[41] The ecological model has a

[38] Kent Buse & Sarah Hawkes, *Health in the Sustainable Development Goals: Ready for a Paradigm Shift?*, 11(1) GLOB. HEALTH 13, 14 (2013).
[39] M. Nilsson, et. al., *Policy: Map the Interactions between Sustainable Development Goals*, 534 NATURE 320 (2016).
[40] Sustainable Development Goals, 2015, Goal 10.
[41] Ben Purvis, *et.al.*, *Three Pillars of Sustainability: In Search of Conceptual Origins*, 14(3) SUSTAIN SCI. 681, 683 (2019).

 ISSN: 2456-4605(O)

long history and was developed as a result of the development of many studies and fields, including public health, social science, biology, and psychology, which in turn generated the ecological and behavioural foundations for the conceptualization of health. The ecological or related conceptions of health were inspired by the modern environmental movement in western countries.[42] The ecological model's foundation is, according to its source, psychologist Urie Bronfenbrenner's "Ecological Systems Theory," which explains how several environmental systems have an effect on human development.[43] He thought that different degrees of influence both affected and were affected by "behaviour". Notably, the term "ecological" has also been used in epidemiology to refer to a community health strategy that focuses on links between the causes and consequences of health problems. The ecological model of health is still built on the foundation of all these systems.[44] In order to address issues with health promotion, Professor Jackson has also developed a behavioral-environmental health model.[45] A healthy organism, according to Wylie, is one that properly and continuously adapts to its environment.[46] Similar to this, Purola described health as being in a condition of balance and harmony with one's ecological and social environment.[47]

As a result, according to this concept, health can be described in two different ways: (i) as an adequate functional capacity that enables people to carry out their duties and responsibilities; and (ii) as a certain quality of life that enables people to live happily, successfully, fruitfully, and creatively.[48] Under the framework of the Ecological Model, the definition of mental health is based on a person's ability to carry out institutionalised social functions, whereas the assessment of somatic health centres on a person's proficiency in accomplishing valued tasks. This concept assumes that people will alter as a result of appropriate social environment changes, which will also aid in removing the interpersonal, organisational, communal, and governmental factors that support and encourage unhealthy behaviour. This ecological point of view on health also has some drawbacks and

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42 L. W. Green, *et.al.*, *Ecological Foundation of Health Promotion*, 10(4) AM J HEALTH PROMOT 270 (1996).

43 Andrea Vest Ettekal & Joseph L. Mahoney, *Ecological Systems Theory*, in KYLIE PEPPLER (ed.), THE SAGE ENCYCLOPEDIA OF OUT-OF-SCHOOL LEARNING 239, 239 (SAGE Publications, 2017).

44 L.A. Pervin, *Performance and Satisfaction as a Function of Individual-Environment Fit*, 69(1) PSYCHOL. BULL. 56 (1968).

45 Terri Jackson, *On the Limitations of Health Promotion*, 9(1) COMMUNITY HEALTH STUD. 1 (1985).

46 C.M. Wylie, *The Definition and Measurement of Health and Disease*, 85(2) PUBLIC HEALTH REP 100 (1971).

47 T. Purola, *A Systems Approach to Health and Health Policy*, 10(5) MEDICAL CARE 373 (1972).

48 H. Hoyman, *Our Modern Concept of Health*, 32(7) J SCH HEALTH. 253 (1962).

difficulties. In general, the ecological principles don't give enough information to assist conceptualise a specific problem or suggest workable remedies.[49]

Conclusion and Observations

In response to the burgeoning environmental movement of the 1960s, numerous nations began taking measures to safeguard the environment within their own boundaries. Governments began to realise, however, that pollution did not stop at their borders in the early 1970s. To solve environmental issues that affected everyone on Earth, international cooperation and consensus were required. A Declaration on the Human Environment was consequently accepted at the Stockholm Conference in 1972. The Stockholm Conference outlined nations' duties to work together to protect the environment.[50] Moreover, because of its global success, as evidenced by the rise in the number of Environment Ministries since 1972, the entire Stockholm Conference must also be considered as a contribution to ecological consciousness. Under the structural setup, the Stockholm Conference suggested for the creation of the United Nations Environment Programme, or UNEP, which is now widely recognised and is positioned as the environmental conscience of the United Nations system, to promote environmental activity and collaboration inside the United Nations Organization. To fully appreciate why the declaration is justly seen today as a historical marker, it is essential to recall the fact that the Stockholm Conference and its outcomes were moulded by the drastically divergent perspectives of industrialised and developing countries on issues of environment and development.[51] Thus, it provides aspiration goals for both of these sections. The Human Environment Conference recognised that, rather than distributing the benefits of development to all people, man has instead caused environmental deficits that are detrimental to his physical and mental well-being. In addition, according to environmental law, the 1982 Convention on the Law of the Sea was crucial in establishing global cooperation for environmental protection. The International Sea-Bed Authority, the International Tribunal for the Law of the Sea, and other international organisations were also acknowledged for their significance under the 1982

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[49] Kenneth R. McLeroy, *et.al.*, *An Ecological Perspective on Health Promotion Programs*, 15(4) HEALTH EDUC. Q. 351, 355 (1988).

[50] Karin Mickelson, *The Stockholm Conference and the Creation of the South-North Divide in International Environmental Law and Policy*, in SHAWKAT ALAM, ET. AL., (eds.), INTERNATIONAL ENVIRONMENTAL LAW AND THE GLOBAL SOUTH 109, 115 (Cambridge University Press, 2015).

[51] Jutta Brunnee, *The Stockholm Declaration and the Structure and Processes of International Environmental Law*, in ALDO CHIRCOP & TED MCDORMAN, (EDS.), THE FUTURE OF OCEAN REGIME BUILDING: ESSAYS IN TRIBUTE TO DOUGLAS M. JOHNSTON, 41, 41 (Kluwer Law, 2008).

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Convention. States are required by this Convention to cooperate with these bodies and to respect the outcomes of their work.

Although the MDGs set a particular target, many counties did not fulfil their obligations within the allotted period.[52] Even though there have been modest global gains in maternal health due to availability to MGDs, the pace of change is inconsistent.[53] Despite all these flaws, since the MDGs were formed, health and well-being have significantly improved in many parts of the world and the broad consensus through international cooperation suggests that the MDGs have played a helpful role in this success. It follows that in order to be accomplished, the health-related MDGs must be seen holistically and across generations.[54] Additionally, this global to-do list for sustainable development has come under critique for being extremely inclusive, universal, and ambitious as well as having potential contradictions, particularly between the socio-economic development and the environmental sustainability goals.[55] Gerardo Suzan and his colleague correctly noted that there had been extraordinary progress toward Goal 3, particularly in the areas of poverty reduction, providing the least developed countries with access to clean water, and combating the HIV/AIDS pandemic, tuberculosis, and malaria. Nevertheless, Accelerating realisation is still essential for a better result in health orientation. As a result, the environmental movement - possibly more so than any other global movement - has firmly built ties between a sizable number of regular people from varied backgrounds and cultures and the growth of international institutions.

Furthermore, it is widely acknowledged that the surrounding environment and its elements, such as pollution, hazardous substances, and the production of excessive green gases, have a direct bearing on health issues. In light of the foregoing, it can be argued that the State parties should take into account the current environmental issues when formulating health policies and alter their policy as necessary. Additionally, there should be no exceptions made when it comes to international cooperation in resolving environmental problems. The developed world has a crucial role to play in this issue, and they should be prepared to adjust their policies accordingly. People should also take the required actions to maintain a

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52 Minerva Kyei-Nimakoh, et. al., *Millennium Development Goal 5: Progress and Challenges in Reducing Maternal Deaths in Ghana*, 16 BMC PREGNANCY AND CHILDBIRTH 51, 52 (2016).

53 Rebekah Gaensbauer, et. al., *Saving Mothers' Lives: Progress in Achieving Millennium Development Goal 5*, 13(4) OBSTET. GYNECOL. 259 (2011).

54 S. V. Subramanian & Emre Ozaltin, *Progress towards Millennium Development Goal 4*, 379(9822) LANCET 1193, 1194 (2012).

55 David Stern, et. al., *Economic Growth and environmental Degradation: The Environmental Kuznets Curve and Sustainable Development*, 24(7) WORLD DEVELOPMENT 1151 (1996).

clean environment and raise awareness among others. Hence, a small step towards environmental protection will ease our path to enjoying the highest possible standard of health.

 ISSN: 2456-4605(O)

BIODIVERSITY CONSERVATION AND ITS BENEFITS SHARING: AN ANALYSIS FROM THE TRIBAL PERSPECTIVE

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Introduction

As a result of World War II, the United Nations Organization known as UNO was established in 1945 to maintain international peace and security. At the time of the founding of the United Nations, environmental issues were not a major concern at the global level. But as early as the 18th and 19th centuries, the world was suffering from environmental pollution. In 1949, the United Nations convened its first Conference on the Environment to protect and use natural resources.[1] The continuing and accelerating degradation of the quality of the human environment prompted the United Nations to convene the United Nations Conference on the Human Environment. Accordingly, a global conference called Stockholm Conference was convened in 1972 and the Stockholm Declaration, known as the Magna Carta of Environment, was passed. The United Nations Environment Conference in Stockholm was the first world conference to make the environment a major global issue. The main objective of the Stockholm Conference was to provide guidelines and encourage governments and international organizations to formulate policies to protect and improve the human environment and to address and prevent its degradation through international cooperation.[2] Following the conference, various environmental actions were taken at the global and national levels. In India, through the 42nd amendment[3], our Constitution was amended in the year 1976 to include articles 48-A[4] and 51-A (g),[5] based on which various environmental laws were enacted to conserve the environment. In 1992, the 'Earth Summit, was held in Rio de Janeiro[6], this global conference was held to mark the

[1] . Proceedings of the United Nations Scientific Conference on the Conservation and Utilization of Resources, 17 August - 6 September 1949, Lake Success, New York, Vol. III, Fuel and energy resources https://digitallibrary.un.org/record/1485027?ln=en

[2] . United Nations Conference on the Human Environment, 5-16 June 1972, Stockholm, https://www.un.org/en/conferences/environment/stockholm1972#:~:text=The%20Stockholm%20Declaration%2C%20which%20contained,and%20the%20well%2Dbeing%20of

[3] . https://www.india.gov.in/my-government/constitution-india/amendments/constitution-india-forty-second-amendment-act-1976#:~:text=Protection%20and%20improvement%20of%20environment,life%20of%20the%20country.%22.

[4] . https://indiankanoon.org/doc/871328/

[5] . https://indiankanoon.org/doc/1644544/

[6]. United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June 1992, https://www.un.org/en/conferences/environment/rio1992

20th anniversary of the first Human Environment Conference in Stockholm. In 1992, world leaders adopted a path to "sustainable development" at the Earth Summit. The Convention on Biological Diversity[7], adopted in Rio, is an agreement between most of the world's governments that, as the world continues to grow, the world is developing the diverse biological resources needed to sustain life on Earth. Articles 8(j) and 10(c) of the convention are considered two of the most important provisions governing international environmental law for indigenous peoples and local communities. They are particularly applicable to communities that contribute to the conservation and sustainable use of biodiversity through traditional knowledge and cultural practices.[8] Based on that, the Conservation of Biodiversity Act was enacted in India in 2002. The Nagoya Protocol on Access to Genetic Resources and the Convention on Biological Diversity on the Fair and Equitable Sharing of Benefits Arising from Their Use is an international agreement that aims to share the benefits arising from the use of genetic resources in a fair and equitable manner. The Nagoya Protocol on ABS was adopted in Nagoya, Japan on 29 October 2010 and entered into force on 12 October 2014.

In this article, we will learn about the methods of conserving biodiversity with the traditional knowledge of Toda, Kota, Irula, Kurumba, Katunayaka, and Paniya tribal people living in Western Ghats, Nilgiri Biosphere Reserve, and about the ways, they can access the bioresource and share its benefits. An attempt has also been made to analyse the measures taken in India.

Aim and object

The aim and object of this paper is to collect and provide details about the benefits to tribal people who share their knowledge about bio-resources.

Scope

The scope of this study is to know about the biodiversity conservation method of the tribal people belonging to the particularly vulnerable tribal group of Tamil Nādu, which has the Nilgiris biosphere as its base, and the benefits of providing knowledge about that bioresource.

Research Methodology

[7]. https://www.cbd.int/youth/0003.shtml
[8] . https://naturaljustice.org/wp-content/uploads/2015/09/Traditional-Knowledge.pdf

 ISSN: 2456-4605(O)

The doctrinal research methodology for this article was followed by the researcher. Since it is a library-based study, books and research articles on plants used and protected by Nilgiris tribal people for food and medicinal use were studied, legal books, Statute, Legislation, Treaties, Protocol, Conventions, and research articles related to bio resource benefit sharing were taken for review.

Global Environmental Initiatives

The environment is the surroundings or conditions in which a person, animal or plant lives or works. Natural environment includes all living and non-living things. The Industrial Revolution of the 19th century mechanized the production and manufacture of goods and introduced the use of machinery and other heavy equipment, thereby using fossil fuels as a source of energy, and consequently began to degrade the environment.[9] Environmental degradation is caused by various causes that include pollution, biodiversity loss, animal extinction, deforestation and desertification, global warming, and more.[10] After realizing the degradation of the environment, the need to protect it was felt globally in the 1970s. The Convention on Wetlands also known as the Ramsar Convention was signed in the year 1971 in the Iranian city of Ramsar, which is one of the oldest inter-governmental accords for preserving the ecological character of wetlands.[11] United Nations Conference on Human environment was held in Stockholm, Sweden in the year 1972, the first declaration of international protection of the environment was also proclaimed which contained 26 principles. India was represented by our former Prime Minister Mrs. Indira Gandhi and she made a very famous speech at that conference. The United Nations Environment Program (UNEP) was the outcome of this conference.[12] The convention on the conservation of Migratory species of wild animals also known as the Bonn Convention was made in the year 1979 to conserve terrestrial, marine, and avian migratory species throughout their range.[13] In the year 1985, the Vienna Convention for the protection of the Ozone Layer was adopted, it was the starting point of global cooperation for the protection of the Ozone layer. The Montreal protocol on substances that deplete the ozone layer was in 1987 and the

[9] Dr. Mahendra Pratap Choudhary, Environment Degradation: Causes, Impact and Mitigation https://researchgate.net/publication/279201881
[10] .ibid.
[11] . Daniel O.Suman, "Mangrove Management" Costal Wetlands (2nd ed), 2019 https://www.sciencedirect.com/topics/earth-and-planetary-sciences/ramsar-convention
[12] . http://www.un.org/en/conferences/environment/stocholm1972
[13] . https://www.bmuv.de/en/themen/natur-biologische-vielfalt-arten/artenschutz/internationaler-artenschutz/bonn-convention

amendment was made in the year 1989 in Montreal protocol.[14] The World Commission on Environment and Development (WCED) also known as Brundtland Commission had been set up in 1983 it published a report entitled "Our Common Future' in 1987[15] and it developed the theme of "sustainable development".[16]

Ecosystem Management

An ecosystem is a geographic area where biotic factors such as animals, plants, fungi, and bacteria interact with abiotic factors such as soil, air, water, and temperature in the environment. Man can excel in life only if the ecosystem is in good condition. Ecosystem management is very important for that. Management is to maintain the same condition without destruction as well as to improve the condition and continue in the same position. At this point, it is also important to clarify what conservative and preservative mean. Conservation refers to efforts to make the human relationship with the environment sustainable while extracting natural resources.[17] Preservation refers to demarcating uninhabited areas of land that have no visible signs of human influence.[18] Therefore, in the conservation method of management, humans can sustainably extract natural resources, while in the preservation method of management, humans are prohibited from entering.

World's perspective on Tribalism:

Indigenous peoples are inheritors and practitioners of unique cultures and ways of interacting with people and the environment. They have retained social, cultural, economic, and political characteristics distinct from the dominant societies in which they live. The ILO has been involved in tribal and indigenous peoples' issues since the 1920s. It is responsible for the Tribal and Indigenous Peoples Convention, 1989 (No. 169), which is the only international treaty open for ratification dealing exclusively with the rights of these peoples.[19] The UN Permanent Forum on Internal Affairs was established in July 2000 as an advisory body to the Economic and Social Council, with a mandate to discuss internal issues related to economic and social development, culture, environment, education, health,

[14] . https://ozone.unep.org/treaties/vienna-convention
[15] . https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/Brundtland-report.html
[16] . Julie Drolet, "Disaster in Social, Cultural and Political Context" International Encyclopaedia of the Social & Behavioural Sciences (2nd ed), 2015 https://www.sciencedirect.com/topics/social-sciences/brundtland-report
[17] . https://www.peanc.org/whhats-difference-between-conservation-and-preservation
[18] . Ibid.
[19] . https://www.un.org/development/desa/indigenouspeoples/about-us.html

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and human rights.[20] On September 13, 2007, the UN General Assembly issued the Declaration on the Rights of Indigenous Peoples.[21] The Declaration is the most comprehensive statement on the rights of indigenous peoples ever produced, with an emphasis on collective rights unprecedented in international human rights. The first World Conference on Indigenous Peoples was held on 22-23 September 2014.[22] The meeting was an opportunity to share perspectives and best practices for the realization of the rights of indigenous peoples, including adherence to the objectives of the United Nations Declaration of the Rights of Indigenous people. Resolutions adopted at the 1992 United Nations Convention on Environmental Development include provisions for indigenous peoples and their communities.[23] A more comprehensive environmental program and policy statement, known as the Rio Declaration and Agenda 21, reiterates the precepts of indigenous peoples' rights and seeks to integrate them into the larger agenda of global environmental and sustainable development.[24]

Understanding of Biodiversity and its importance

Biodiversity is biological diversity, which consists of two terms, bio and diversity. bio means life and diversity means the variety of life, so the term biodiversity refers to the variety of life. Sociobiologist Edward Wilson popularized the term biodiversity.[25] Biodiversity refers to the variety of living things on Earth, including plants, animals, bacteria, and fungi. There are three types of biodiversity, genetic biodiversity, species biodiversity, and ecosystem or ecological biodiversity. Biodiversity is considered important for several reasons. As certain plants are considered sacred by certain people, it becomes a cultural identity. Some types of plants are used in the preparation of medicines like vitamins, painkillers, and various types of diseases for medical purposes. Also, many plants and tubers are used as food for humans, as well as raw materials like rubber, cotton, and timber oil are essential for industries. Biodiversity conservation is currently felt to be

[20] . https://www.un.org/development/desa/indigenouspeoples/unpfii-sessions-2.html
[21] . https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html / https://answershark.net/2021/02/17/the-declaration-on-the-rights-of-indigenous-peoples-was-adopted-by-the-un-general-assembly-on/
[22] . https://www.un.org/development/desa/indigenouspeoples/about-us/world-conference.html
[23] . S. James Anaya, *Indigenous Peoples and International Law Issues,* 92 AM. SOC'Y INT'L L. PROC. 96 (1998), *available at* https://scholar.law.colorado.edu/faculty-articles/1541.
[24] . Ibid.
[25] . https://eowilsonfoundation.org/

essential globally as economic benefits are available through bioresources, preventing environmental degradation and creating a healthy ecosystem.

Conservation of Biodiversity

Various studies say that biodiversity loss is also one of the reasons for environmental degradation. The biological wealth of our planet is rapidly decreasing due to human activities. According to the IUCN Red list of threatened species, 27 species have disappeared in the last twenty years alone, and now 13% of all Birds, 41% of all Amphibians, 27% of all Mammal species, and 21% of all Reptiles species in the world are threatened with extinction.[26] [27] Some plants like Malabar Mahagani, Musli, and Red sandalwood are listed as endangered plants in India.[28] John P. Rafferty in his article "Biodiversity loss, Causes, effects, and Facts" states that biodiversity loss is generally associated with permanent ecological changes in ecosystems and that biodiversity losses caused by human disturbances are more severe and long-lasting.[29] Realizing that biodiversity conservation is a necessary thing, various methods are being taken to conserve it at the global level. Biodiversity conservation is done in two ways, in-situ and ex-situ. The in-situ method of conservation is called on-site conservation by creating and protecting biodiversity in its places, such as Biosphere reserves, Wildlife Sanctuaries, National parks, Hot spots, Wetlands, and Sacred Groves. Similarly, creating Zoos, Aquariums, Botanical gardens, etc., and thereby conserving biodiversity is an off-site method of conservation called Ex-situ. On-site arrangements including Biosphere Reserves and off-site arrangements including Zoos are established by the governments of respective countries and recognized by UNESCO. India has 18 biosphere reserves out of about 700 in the world. The Nilgiris Biosphere Reserve was the first biosphere in India established in the year 1986, covering the borders of the three states of Tamil Nadu, Kerala, and Karnataka.

Nilgiris Biosphere Reserve

The Nilgiris Biosphere Reserve has a total area of 5,520 sq. km in the Western Ghats with 2537.6 sq. km in Tamil Nadu, 1455.4 sq. km in Kerala, 1527.4sq.km in Karnataka, and a wide range of ecosystems and species diversity are found in the region. It is located in the Western Ghats between 76°- 77°15'E and 11°15' - 12°15'N. The Nilgiri Biosphere Reserve

[26] . https://www.iucnredlist.org/
[27] . https://www.lifegate.com/extinct-species-list-decade-2010-2019#plants
[28] . https://www.floweraura.com/blog/endangered-species-of-plants-in-india
[29] https://www.britanica.com/science/biodiversity-loss#ref342678

 ISSN: 2456-4605(O)

falls under the Malabar Rainforest biogeographic region. Mudumalai Wildlife Sanctuary, Wayanad Wildlife Sanctuary Bandipur National Park, Nagarhole National Park, Mukurthy National Park, and Silent Valley are the protected areas in this reserve.[30] The Nilgiris Biosphere Reserve has significant intact areas of natural vegetation ranging from dry scrub to evergreen forests and swamps, thus contributing to high biodiversity. The Nilgiris Biosphere Reserve is very rich in plant diversity.

The flora found in the Nilgiri biosphere includes 3238 species of angiosperms, 71 species of gymnosperms, and 134 species of pteridophytes. About 3,300 species of flowering plants can be found here. Of the 3,300 species, 132 belong to the Nilgiris Biosphere Reserve. The genus Baeolepis is confined to the Nilgiris. Some of the plants that are completely restricted to the Nilgiris Biosphere Reserve include Adenun, Galacanthus, Paeolepis, Freeria, Jarotina, Vagatea, Pocilonuron, etc. Of the 175 species of orchids found in the Nilgiris Biosphere Reserve, 8 belong to the Nilgiris Biosphere Reserve. The Sholas of the Nilgiris Biosphere Reserve are a treasure house of rare species of flora.[31]

The fauna of the Nilgiris Biosphere Reserve includes more than 100 mammals, 350 species of birds, 80 species of reptiles and amphibians, 300 species of butterflies, and countless invertebrates. Nilgiris Biosphere Reserve has 39 species of fish, 31 species of amphibians, and 60 species of reptiles found in the Western Ghats. Freshwater fishes such as Danio neilgheriensis, Hypselobarbusdubuis, and Puntius bovanicus are restricted to the Nilgiris Biosphere Reserve. Nilgiri tahr, Nilgiri langur, slender loris, blackbuck, tiger, cow, Indian elephant and marten are some of the animals found here.[32]

Conservation and management of Nilgiri Biosphere Reserve depend on coordination between government agencies and local people. For efficient management, the Nilgiri Biosphere Reserve has been zoned into (i) a core zone (1240 sq. km) (ii) a buffer zone (4280 sq km). The buffer zone is further divided into management zones such as forestry, tourism, and recreation zones. Being one of the hotspots of biodiversity, the Nilgiri Biosphere Reserve has a few national parks and wildlife sanctuaries within its boundaries. The main objective of these national parks and wildlife sanctuaries is to protect wildlife.

[30] . https://vikaspedia.in/energy/environment/biodiversity-1/the-nilgiri-biosphere-reserve
[31] . Ibid.
[32] . Ibid.

Some of these areas have been designated as Tiger and Project Elephant Areas by the government.[33]

A wide variety of human cultural diversity can be found in the Nilgiris Biosphere Reserve. Tribes such as Thodas, Kotas, Irulas, Kurumbas, Baniyas, Adians, Edanadan Chettis, Cholanayakans, Allars, and Malayans are indigenous to the reserve. Except the Cholanayaks who live exclusively on food gathering, hunting, and fishing, all other tribes are engaged in their traditional occupation of agriculture. 75 types of Particularly Vulnerable Tribal groups have been identified in India, of which 6 types identified in Tamil Nadu are Thodar, Kothar, Irulrar, Kurumbar, and Paniyar, all of whom live in the Nilgiris.[34]

Recognition of Traditional knowledge:

Traditional knowledge is also called Indigenous knowledge. Indigenous knowledge describes the knowledge and information followed by the tribal local community to ensure conservation and sustainable use of biodiversity. That knowledge is passed on from generation to generation through story, song, cultural value, local language, healing art, agricultural practice, etc. It is manifested by living in the environment for generations and observing the environment continuously.[35] There is a growing appreciation of the value of traditional knowledge now more than in the past. Traditional knowledge is valuable not only to those who depend on it in daily life but also to modern industry and agriculture. Traditional knowledge of land and species conservation and management and revitalization of biological resources is based on an intimate understanding of the daily lives and practices of indigenous peoples and their environment cultivated over thousands of years.[36]

Article 48 (A) of the Constitution of India[37] imposes a constitutional duty on the state to protect and improve the environment and protect the forests and wildlife of the country. Article 51 (A) (g)[38] imposes a constitutional duty on the citizens of India. To preserve and enhance the natural environment including forests, lakes, rivers, and wildlife, and to be

[33] . Ibid.
[34] . Ganesh B, Rajakumar T, Acharya SK, Vasumathy S, Sowmya S, Kaur H. Particularly Vulnerable Tribal Groups of TamilNadu, India: A Sociocultural anthropological review. India J Public Health (serial online) 2021 https://www.ijph.in/text.asp?2021/65/4/403/333976
[35] . Biba Jasmine, Yashaswi Singh, Malvika Onial and V.B. Mathur, "Traditional Knowledge Systems in India for Biodiversity Conservation" Indian Journal of Traditional Knowledge, Vol. 15 (2), April 2016. PP. 304-312
[36] . Traditional-Knowledge-backgrounder-FINAL.pdf
[37] . https://indiankanoon.org/doc/871328/
[38] . https://indiankanoon.org/doc/1644544/

 ISSN: 2456-4605(O)

kind to all living beings. The UN Declaration on the Rights of Indigenous Peoples, endorsed by the UN Human Rights Council in June 2006, recognizes that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and sound management of the environment. The theme of the 2019 session of the United Nations Permanent Forum on Indigenous Issues is the creation, transfer, and protection of traditional knowledge. The forum will be an opportunity to identify and share good practices and lessons learned to advance the rights of indigenous peoples, formulate policy and program recommendations to promote and protect the rights of indigenous peoples and ensure generation, transmission, protection, maintenance, and strengthening of traditional knowledge.[39] Recognizing the importance of traditional knowledge, the right of indigenous peoples to develop, maintain and protect traditional knowledge is enshrined in many international protocols and policy instruments. The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) emphasizes the protection of indigenous peoples' rights to traditional knowledge under Article 31.[40] Article 8(j) of the Convention on Biological Diversity (CBD) [41] recognizes the close relationships of indigenous peoples and local communities with biological resources and the traditional knowledge Convention and the contributions they can make to sustainable biological diversity. For this purpose, the CBD has established a Task Force on the Implementation and Protection of Traditional Knowledge.

Plants used and conserved by Nilgiris Tribals

The Forest Rights Act, 2006[42] brought by the Government of India to redress the long-standing injustice done to tribals by British-era laws, empowers tribal communities and other traditional forest dwellers and recognizes the contribution of tribal communities in the protection and conservation of wildlife, biodiversity, ecosystems, and forest resources. This Act gives the right to access biodiversity and gives the right to sell minor forest produce. The Biodiversity Act 2002,[43] recognizes the role of indigenous communities in conserving and protecting biodiversity, traditional knowledge, and sustainable use of biodiversity.

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[39]. Ibid.

[40] . https://biocultural.iied.org/un-declaration-rights-indigenous-peoples#:~:text=%E2%80%9CIndigenous%20peoples%20have%20the%20right,%E2%80%A6%E2%80%9D%20(Article%2031).

[41]. https://www.cbd.int/traditional/

[42] . https://www.indiacode.nic.in/bitstream/123456789/8311/1/a2007-02.pdf

[43] . https://www.indiacode.nic.in/bitstream/123456789/2046/1/200318.pdf

Tribal communities live close to forests and have managed and conserved the biodiversity of their areas since time immemorial. India is a prosperous country with large ethnic communities and Biodiversity. There are 45,000 species of ethnobotanical importance. 7500 of these species are in medicinal use for indigenous health practices. About 3900 plant species are used as food by the tribals including 145 species of roots and tubers, 521 species of leafy vegetables, 101 species of bulbs and flowers, 647 species of fruits, 525 species used for fiber, 400 species used as fodder, 300 species used in the manufacture and extraction of chemicals, which are used as naturally occurring pesticides and extraction of gum, resins, dyes, and perfumes.[44] Besides these many plants are used as timber and building material and 700 species are culturally important from the moral, religious, and social point of view.

The tribal people living in the Nilgiris depend on natural resources for their livelihood. Different ethnobotanical studies say that they use different types of plants for food and medicine. As early as the year 1990 S. Rajan and M. Sethuraman (1990) reported in their research paper[45] that 34 plants were used as food and medicine by the Kotas of Nilgiri District. Pradeeps. M. and G. Poyyamoli (2012)[46] through their field study found that the Irulas use 74 species of plants including 28 trees, 5 lianas, 17 shrubs, and 24 herbs for medicinal purposes. V. Ramachandran and C. Udayavani (2013)[47] found that out of 123 species of plants used by the Baniya and Kurumba tribes, 72 were edible plants, including 56 wild and 16 semi-wild species, 24 tree species, 22 herbs, 14 shrubs, and 11 climbers. Deepak. P and Gopal GV (2014)[48] in their research paper stated that among the Nilgiri tribes, Kurumbars use 51 species of plants for medicinal purposes, Katunayaks 40, Irulas 40, Kothas 28, Paniyas 49 and Todars 32 species. In a study conducted by S.M. Dhivya and K. Kalaichelvi, (2016)[49] it has been mentioned that the Irulas use 40 types of plants to cure

[44]. Arora, Ranjit K. 1997. Ethnobotany and its role in the conservation and use of Plant Genetic Resources in India, Ethnobotany 9: 6-1

[45].S. Rajan and M. Sethuraman, "Plants used in folk medicine by the Kotas of Nilgiris District, Tamilnadu" Ancient Science of life, Vol. X No4, April 1991, Page 223-230.

[46]. Pradeep. M, and G. Poyyamoli, "Ethnobotany and Utilization of plant resources in Irula Villages (Sigur Plateau, Nilgiri Biosphere Reserve, India" Journal of Medicinal Plants Research, Vol. 7(6). P.P.267-276, 10 February 2013.

[47]. V.S. Ramachandran and C. Udhayavani, "Knowledge and uses of wild edible plants by Paniyas and Kurumbas of Western Nilgiris, TamilNadu" Indian Journal of Natural Products and Resources, Vol. 4(4), December 2013, PP. 412-418.

[48].Deepak P. and Gopal GV, "Nilgiris: A Medicinal Reservoir" The Pharma Innovation Journal 2014: 3(8):73-79.

[49]. S.M.Dhivya, K.Kalaichelvi, " Ethno Medicinal Knowledge of Plants used by Irula tribes, Nellithurai beat, the Nilgiris, TamilNadu, India" Asian Journal of Medical Sciences/ SEP-Oct 2016/Vol 7/Issue 5.

 ISSN: 2456-4605(O)

various ailments like Ashthuma, Jaundice, TB, Leprosy, Cough, Fever, Skin disease, Hypertension, wound healing, and diabetes. Lokesh R and 5 other researchers (2017)[50] found that 6 tribes belonging to Nilgiri's Particularly Vulnerable Tribal Group (PVTGs) use 40 species of plants for medicinal use.

It is clear from various studies that the tribal people have been accustomed to protecting the plants used for their food and medicine from perishing and consuming them only as needed. Apart from that culturally and based on the belief some types of trees have been protected by Nilgiri tribal people.

Concept of Access and Benefits Sharing: Indian scenario

Biodiversity leads to sustainable development in all sectors of people's livelihoods and activities. Yet growing anthropogenic pressures lead to rapid urbanization and industrialization, which are contributing to global biodiversity loss. An important convention on biodiversity conservation was adopted at the Rio conference held in 1992. India is a party to the said United Nations Convention on Biological Diversity (CBD), the Biological Diversity Act was adopted in 2002 to achieve the objectives of the CBD in India. To effectively implement the Biodiversity Act 2002, India promulgated the Biodiversity Rules in 2004[51] and framed the Guidelines for Access to Biological Resources and associated Knowledge and Benefit Sharing Regulations in 2014.[52] These laws are aimed at ensuring the objectives of the CBD i/e (i) conservation of our biological resources (ii) sustainable use of its components and (iii) fair and equitable sharing of benefits arising from the use of biological resources. The concept of access and benefit sharing encourages indigenous peoples and conservationists to provide biological resources and traditional knowledge for commercial use and research. This concept was further reinforced in the Nagoya Protocol on the CBD to provide legal certainty, transparency, and clarity to the ABS mechanism. Commercial users of biological resources are legally bound to share a portion of their benefit with such conservators in monetary and non-monetary forms. India

[50] . Logesh R, Dhanabal SP, Duraisamy.B, Chaitanya mvnl Dhamodaran P, and Rajan S, "Medicinal plants Diversity and their Folklore uses by the Tribes of Nilgiri Hills, TamilNadu, India" International journal of Pharmacognosy and Chinese Medicine, 2017, 1(3) 000114.

[51].https://www.forests.tn.gov.in/tnforest/app/webroot/img/document/legislations/01_Biological%20Diversity%20Rules%202004.pdf

[52]. https://kbb.karnataka.gov.in/storage/pdf-files/notification%20Eng/ABS-Regulations-2014-Notification(1).pdf

has recognized the rights and privileges of tribal and rural communities by enacting various laws.

The tribal population in India is estimated at 104 million or 8.6% of the national population and 705 ethnic groups are officially recognized as Scheduled Tribes.[53] Every tribal ethnic group in India preserves some type of plant for food and medicine. The government of India established the Ministry of AYUSH in 2014 to bring alternative medicine especially tribal medicine into the healthcare sector. Also, developing education, research, and propagation of traditional medicine is the main task of the Ayush Ministry. Ayurveda, Yoga, and naturopathy, Unani, Siddha, and Homeopathy are alternative health systems covered by the Ministry.[54]

Biodiversity Act, 2002 provides for the constitution of the Biodiversity Management Committee under Section 41 of the Act. So far 276895 Biodiversity Management Committees (BMC) have been established in 28 States and 7 Union territories.[55] The functions of BMC include the preparation, maintenance, and verification of the People Biodiversity Register (PBR) in consultation with local people. This PBR helps in promoting sustainable resource management and ensures equitable distribution of monetary benefits to local communities for the use of their living resources. The Biodiversity Act 2002 governs ABS through a three-tier system comprising (i) National Biodiversity Authority (NBA) (ii) State Biodiversity Board (SBB) and (iii) Biodiversity Management Committee (BMC).

The Ministry of AYUSH in association with the Council of Scientific and Industrial Research (CISR) and the Ministry of Science and Technology set up Traditional Knowledge Digital Library (TKDL). TKDL database is a value-added digital database created by the Government of India to (i) protect TK (ii) prevent misuse of TK (iii) generate active research using modern science.

Discussion & Analysis

This paper presents the tribal knowledge about biodiversity conservation and biodiversity resource from the tribal perspective and highlights the steps taken by the government to make the benefits available to the tribal people. Tamil Nadu Biodiversity

[53]. https://www.iwgia.org/en/india.html
[54] . http://nbaindia.org/content/20/35/1/bmc.html
[55] . http://nbaindia.org/content/20/35/1/bmc.html

 ISSN: 2456-4605(O)

Board (TNBB) has been established and is doing its work. The Tamil Nadu Biological Diversity Rules, 2017 has been made on 9th November 2017. Tamil Nadu Biodiversity Board (TNBB) completed 385 Blocks in Tamil Nadu State, block level Biodiversity Management Committee (BMC) in May 2018. Even though the Biodiversity Act was enacted long back, and the central government rules the Biological Diversity Rules framed in the year 2004 some of the states still do not make rules to implement the Act, which will cause a huge setback in the tribal people getting benefits. Although State Biodiversity Board (SBB) has been set up in many states, Biodiversity Management Committees functioning at the grassroots level have been set up by 2,76,895 BMCs across India, but many more have not been set up. People's Biodiversity Registers were prepared by consulting the tribal people, and only 1,96015 out of 275286 PBRs.[56]

The information collected by various researchers during the field study of different tribes in different areas in Nilgiri tribes, it is known that different tribes use the same type of medicinal plants, in such situations no clear explanation is given as to who should be given benefit. Is an agreement with one village enough? when several others also access the same resources. In the absence of any clarity as to the answer to this question, there are great difficulties in obtaining benefits. There are still fundamental problems in establishing ownership of biodiversity resources as traditional knowledge is recorded according to self-evident information. Benefit sharing is still resource-focused and lacks clarity on how to regulate benefit sharing in people's access to knowledge.

Conclusion

In general, tribal people are backward in terms of education and economic comfort. International agreements to protect and recognize the traditional knowledge of tribal people at the international level and domestic laws have been established to implement it locally. Accordingly, the Convention on Biodiversity was established in 1992, and to implement it, the Indian Biodiversity Act 2002 was the first law in the world, rules were introduced in 2004, and regulations were introduced in 2014. However, it takes a long time to establish the structures as per the provisions of the Act, thus reducing the strength of the Act. It will be useful if the necessary infrastructure is established so that the essence of the law does not diminish quickly, taking into consideration that the benefits of the law will be available to the right people, necessary steps will be taken to raise the livelihood of the tribal people

[56] https://www.nbaindia.org/

by establishing the necessary BMCs in all the states. There is no doubt that the implementation of laws will require clarifications, but when those problems are identified through research and mistakes are rectified, the benefits will reach the people who need them.

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CHALLENGES OF REGULATORY FRAMEWORK ON INTERNATIONAL TRADE IN ENDANGERED SPECIES

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Abstract

Illegal trade of endangered species is a transnational crime that largely contributes to the over-exploitation of certain species. The capitalist view of wildlife as mere articles of profit has encouraged trade in endangered species, with little regard to environmental consequences. To address this and prevent further escalation of the gravity of the issue, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was drafted in 1963. CITES is an international framework that seeks to regulate and provide a sustainable system for international trade in more than 36,000 species of flora and fauna. One of its main objectives is to control the import, export and introduction of species, within this convention, to other countries, through the administration of a licensing system. This paper will delve into the history of the formulation and implementation of CITES. It will further discuss certain Articles of the convention. These Articles will be critically analysed in terms of application and effectiveness. This paper aims to establish the various challenges that are faced in implementation of what the convention seeks to rectify. The paper will further establish how the provisions of the convention are incapable of dealing with contemporary issues and how the document is prone to ambiguous interpretation owing to ill-defined phrases.. Some of the main problems are the high costs involved, rigid mechanism present, and obsolete in certain areas. The paper will outline possible solutions to strengthen the existing legal framework in a way that is more relevant to the present times, so as to reach the goals that the CITES set out to achieve.

Keywords: CITES; endangered species; flora; fauna; illegal trade; regulatory framework; wildlife; signatory States; binding; National Legislation

Introduction

Evolution is a process that is inevitable. With evolution, the famous theory of 'Survival of the Fittest' as propounded by Darwin has proven to be accurate time and again. Over the decades, humans have risen to be the top predator in the food chain due to ever improving

technology and development. The flora and fauna that prove useful to humans, in any form, are at a risk of endangerment and eventually extinction. This brought upon the need for a uniform international regulation that dealt with all the problems associated with endangered species of flora and fauna. Therefore, this led to the 'Convention on International Trade in Endangered Species of Wild Fauna and Flora' (CITES) being formed.

History of the formulation and implementation of cites

Trade in wildlife became a major exploitative mechanism due to international trade being unregulated and uncontrolled up until 1963[1]. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is one of the oldest multilateral environmental agreements[2]. It was due to the unrestricted levels of trade that provide impetus to the General Assembly of the International Union for Conservation of Nature and Natural Resources (IUCN) to initiate the making of an international convention to regulate export, transit, and import of threatened wildlife species[3]. 21 countries convened to sign CITES and the number increased to 152 states as of 2001[4].

The regulation of the trade in CITES is not restricted to whole animals and plants but also includes readily recognizable parts or derivatives. Member states are obligated to adopt CITES within their territory through domestic legislation. This is the key factor that gives CITES the 'teeth' which makes CITES one of the few conventions that is capable of enforcing its provisions through both policy guidelines and directions. This gives it a bit more binding power compared to other conventions which make it a mixture of both soft and hard law[5].

CITES' basic objective is to protect the wildlife species and extend regulations where application is necessary. It does this by ensuring that trade in 'species threatened with extinction' (Enumerated in Appendix I species)[6] and is permitted only in 'exceptional circumstances'. It provides enough flexibility to the member states to discuss and decide

[1] Philip, H.R.H.P. and Lyster, S. (no date) *International Wildlife Law*.
[2] Rosalind Reeves, "CITES regulatory framework", Center for International Forestry Research (2015).
[3] Id.
[4] Michael J. Hickey, Note, Acceptance of Sustainable Use Within the CITES Community, 23 VT. L. REV. 861 (1999).
[5] AYNE, CYMIE. "INTRODUCTORY NOTE TO CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES) COMPLIANCE PROCEDURES." *International Legal Materials*, vol. 46, no. 6, American Society of International Law, 2007, pp. 1174–77, http://www.jstor.org/stable/20695775.
[6] Art. II (1), CITES.

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on the most desirable to achieve the goal of wildlife protection[7]. On an analysis of the provisions regarding the mechanisms for entering species into categories of endangerment through a voting mechanism, it is clear that there is sufficient flexibility accorded in the Convention[8].

Based on the preamble of the Convention, the main observation that can be made is that there has to be a form of recognition present about the flora and fauna and that it must be protected for generations to come. Another important point, which acts as the foundation for CITES, states that 'international cooperation' is required as well as 'States and People having the responsibility to protect the environment'. This is clearly heavily anthropocentric in nature and there is no form of ecocentrism or the promotion of Earth Jurisprudence, however the same shall not be discussed in this paper.

The significance of worldwide participation is clear, as natural life abuse is dependent on business sectors somewhere else. Poaching and carrying of flora and fauna is majority of the time determined by demand and supply in the international market. A major problem that is present is the fact that there is no actual benefit for any country to stop illegal trade and business of flora and fauna in its own nation if no other nation is willing to follow the same. Therefore, the need for international cooperation is critical, with respect to control and regulation by both customer and producer nations. The all-out anticipation of poaching and sneaking is inconceivable and measures are ill-fated to bomb except if customer nations supplement the endeavours of producer nations by likewise authorizing severe controls[9].

Important articles under the convention

Article I[10] of the Convention provides the definitions of terms such as 'species', 'specimens', 'trade', 're- export', among others. Article II[11] provides the distinction to be made between Appendixes I, II and III, and lays out the different species that are to be present in each Appendix. The question as to why this is important is because of the simple

[7] Saskia Young, Contemporary Issues of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Debate over Sustainable Use, 14 COLO. J. INT'l ENVTL. L. & POL'y 167 (2003).
[8] Supra 5
[9] Willem Wijnstekers, "The Evolution of CITES", International Council for Game and Wildlife Conservation, 2011.
[10] Convention on International Trade in Endangered Species of Wild Flora and Fauna, Article I, March 3, 1973, 27 U.S.T. 1087; 993 U.N.T.S. 243
[11] *Id.* At Article II

fact that, when there is a differentiation and fragmentation made, it will allow for easier tracking, resource management and most importantly care taking and non-overlapping. This ensures that species in a particular category receive the appropriate treatment required and there is no room for ambiguity, thereby preventing States from renouncing any form of liability.

Appendix I contains the list of all the species that are under a threat of extinction (or endangered species) and trade in these species affects their survival. It provides that trade in these species must be strictly regulated and authorisation should be provided only in exceptional situations. Appendix II consists of species that currently do not fall in the 'endangered species' category but if there is no strict regulation and measures taken then it is highly likely that they will fall into that category. It also includes the regulation of species that could cause another species to fall into the endangered category, i.e. predatory in nature. A common theme to be noted from the first two appendixes is that the trade in the species should not be pernicious to their survival in any way. Lastly, Appendix III[12] includes species that the party or contracting State identifies within its jurisdiction as being subject to regulation, necessitating cooperation of other States in the regulation of trade to prevent exploitation of that particular species. Article II (4) says that trade in specimens of any species mentioned in the three Appendixes shall only be according to the provisions of the Convention.

Article III[13] elaborates all the conditions and requirements for trade in species contained in Appendix I; the endangered species. Articles III (2)(a) to (d) provide for all the conditions for granting the export permit for exporting species under Appendix I. Articles III (3)(a) to (c) provide for all the conditions for grant of import permits for importing species under Appendix I. The other provisions in Article III mainly deal with re-export of species in Appendix I and introduction from the sea.

Articles IV[14] and V[15] lay down the procedure to be followed and the conditions for trade in species under Appendix II and III respectively. All the three Articles enumerate the conditions for trade, there is common usage of the terms such as "Scientific Authority" and

[12] *Id.* At Article III
[13] *Id.* At Article III
[14] *Id.* At Article V
[15] *Id.* At Article IX

 ISSN: 2456-4605(O)

"Management Authority". These terms are defined under Article I(f)[16] and (g), they are further elaborated upon under Article IX[17]. Scientific Authority is one or more national scientific authorities designated by the contracting State. A Management Authority is a national management authority that is competent to issue and grant permits or certificates on behalf of the State designating it. The Management Authority is authorized to communicate with other parties and the Secretary. The importance of Article III, IV, and V is that there is a form of procedure which is given for countries to follow. Therefore while there is flexibility provided to States', for the purpose of Sovereignty, there is a standard that must be followed to ensure that there is no abuse, exploitation or loophole in the system.

Article X[18] talks about trade with States that are not a party to the Convention. Documents issued by competent authorities of non-party States which are relatively in line with the regulations that are present in the Convention may be acceptable. This plays a significant role in ensuring that there is some form of similarity that is present and agreements entered into are not on a completely different tangent. Article XII[19] is another important provision which deals with the functions of the Secretariat. A Secretariat is appointed or provided by the Executive Director of the United Nations Environment Programme and he may be assisted by various non-governmental, national or international agencies and bodies in protecting and conserving wild flora and fauna. Article XII(2)(a) to (i) mention the extensive functions of the Secretariat; from arranging meetings between parties to preparing annual reports on the work undertaken, the implementation of the Convention and making recommendations for the implementation of the Convention.

Article VIII[20] deals with the duties and measures party States should undertake to further the goals of the Convention and prevent illegal trade in species. Some of these measures include penalizing the trade in or possession of species, confiscation of such species (live or otherwise), returning them back to the country of export, reimbursement, handling of such confiscated live species and rehabilitation and protection in rescue centers designated by the Management Authority, among others. The significance of this is that it provides some form of action to be taken, and therefore there is a form of check and control present

[16] *Id.* At Article X
[17] *Id.* At Article XI
[18] *Id.* At Article VIII
[19] *Id.* At Article VI
[20] *Id.* At Article VI

in case of any default. Article VI[21] provides for the general rules related to permits and certificates to be issued under other Articles and provisions of the Convention. Article VII[22] contains special provisions and different situations wherein there are exceptions provided with relation to trade of certain species.

Article XV[23] contains detailed provisions for the procedure to be followed to make amendments to Appendixes I and II during meetings of the Conference of Parties. Article XVI[24] deals with amendments to Appendix III. The benefit of these two articles is that it provides modifications which is essential if we need the Convention to have adaptability and to change with the time and not become obsolete. Article XVIII[25] provides for resolution of disputes between parties through negotiation, on the failure of which, the parties can mutually consent to arbitration proceedings at the Permanent Court of Arbitration at The Hague.

Critical analysis of cites

CITES is one of the most successful International Conventions in terms of the number of signatory states. There are 183 countries that recognised the need for the safeguard and conservation of endangered and exotic species of flora and fauna that became signatories to the convention. CITES is a binding document on its signatory countries, insofar as mandating them to enact domestic legislations that are in compliance with the framework provided by it on a national level. Although CITES was successful in gaining many signatory states that promised to comply with the framework, it was unsuccessful on the implementation front. There are multiple contribution factors to the failure in implementation of CITES, few of which have been discussed in the following paragraphs.

A. General Non-binding Nature of International Laws:

The level of enforceability of the laws or provisions established in an International convention or treaty is not directly enforceable on any individual signatory Party. An international law attains the status of enforceability only upon ratification by the signatory

[21] Convention on International Trade in Endangered Species of Wild Flora and Fauna, Article VII, March 3, 1973, 27 U.S.T. 1087; 993 U.N.T.S. 243
[22] *Id.* At Article XV
[23] *Id.* At Article XVI
[24] *Id.* At Article XVII
[25] Knut Traisbach, *International Law*, E-International Relations (November, 15, 2021, 15:15) https://www.e-ir.info/2017/01/01/international-law/

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state[26]. Therefore, unless the signatory state so wishes, a convention can be said to have no binding value..

B. Insufficient Enforcement in Signatory States:

This can be read in conjunction with Point A. The lack of success of CITES can be mainly attributed to the insufficient enforcement by signatory states, while developing domestic legislations in compliance with the framework established by the Convention. The Parties to this Convention are bound to enact domestic legislations that penalize trade in, or possession of, specimens that are in violation of the provisions of CITES. They are also bound to confiscate and/or return such specimens to the States from which they were illegally exported. From the time of its inception, CITES did not mandate a specific period of time within which the signatory states had to enact domestic legislations that enforced the provisions of CITES in their respective territories. This led to a continued delay on the part of the States when it came to the implementation of important laws for the prevention of illegal trade on endangered and exotic flora and fauna.

C. The National Legislation Project[27]:

As a result of the unreasonable delay in implementation of the provisions of CITES in signatory countries through their respective domestic legislations, the National Legislation Project was initiated in 1992[28]. According to this, the Secretariat was directed to identify based on 4 main requirements, the level of compliance by signatory states. Based on this, the Secretariat had to further classify signatory parties into 3 categories:

(i) Signatories that enacted domestic legislations that sufficiently addressed the four main requirements enlisted under the National Legislation Project,

[26] National Legislation Project, Convention on International Trade in Endangered Species of Wild Flora and Fauna, 27 U.S.T. 1087; 993 U.N.T.S. 243 https://cites.org/eng/legislation/National_Legislation_Project (November, 15, 2021, 15:30)

[27] National Legislation Project, Convention on International Trade in Endangered Species of Wild Flora and Fauna, 27 U.S.T. 1087; 993 U.N.T.S. 243 https://cites.org/eng/legislation/National_Legislation_Project (November, 15, 2021, 15:30)

[28] Rosalind Reeves, *supra* note 2, at 12 *Also see: https://www.encyclopedia.com/environment/energy-government-and-defense-magazines/cites-convention-international-trade-endangered-species-wild-fauna-and-flora*

(ii) Signatories that enacted domestic legislations that sufficiently addressed one to three of the four main requirements enlisted under the National Legislation Project;

(iii) Signatories that enacted no domestic legislations that sufficiently address any of the four main requirements enlisted under the National Legislation Project.

The four main requirements that are enlisted under the National Legislation Project, as mentioned above, are:

(i) There must be at least one designated Management Authority and one Scientific Authority as provided under the text of the Convention;

(ii) The Signatory States must prohibit trade in Specimens that amount to a violation under the provisions of the Convention;

(iii) The Signatory States must penalise such trade, as explained under the (ii) requirement; and

(iv) The Signatory States must establish a procedure to confiscate the Specimen that was in illegal possession or was illegally traded.

If all of these requirements are met, the Secretariat has to categorise the State under Category 1. If any of the 4 requirements are met, then the Secretariat has to categorise the State under Category 2. And if none of the above 4 requirements are met, then the Secretariat must categorise the Signatory State under Category 3. Based on such categorisation, the standing committee established under the Convention can identify Parties as priority, and the effort to uplift the conditions in such a priority State shall be made diligently.

Even with such efforts being made, there are still 28 Signatory States that are under category 3, 40 States under Category 2 and 6 States that are categorised as Priority by the Standing Committee. This is about 40% of the total number of Signatory Countries that have failed to meet the 4 basic requirements that facilitate enforcement of CITES in their countries. After over half a century of this convention coming into force, the present scenario is not a picture of success.

D. Complex and Controversial Species and Specimens to Monitor:

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One of the major drawbacks of having a diverse landscape around the globe is the various different kinds of geographical, biological and ecological bio-diversity. Each signatory state has a certain kind of ecosystem and biodiversity[29]. CITES in a nutshell, provided flexible provisions keeping in mind all such provisions, now, the signatory states took advantage of this flexibility provided under the convention to list the endangered species and specimens up to their whims and fancies along with deciding on which illegal practices are allowed under the law of the state and which aren't. The tribes who had made the Forests and Jungles their habitat, establishing a sustainable system of living in cognizance of the natural history, was shattered by corrupt political practices and individual interest taking over collective good.

E. Low penalties for violation:

One of the main requirements for a Signatory State to be considered compliant under CITES is that they need to have a system the punished violation of the other conditions laid down by the Convention. Having said that, CITES fails to establish even a vague standard of punishment to be followed by Signatories, let alone a specific or comprehensive blueprint. Therefore, each Signatory State assigns only such a punishment as it sees fit. This clearly makes room for lack of fear of sanction on one hand and the overutilization of available power on the other. It provides an unnecessary amount of discretion to the Signatories, making the process more haphazard and which ultimately defeats the purpose of the Convention.

F. Use of Reservations:

In the context of CITES, the concept of reservation can be understood as an exemption from the provisions of CITES, to some extent. Upon ratification, acceptance, approval or accession, a signatory can request reservation with respect to any species listed under Appendices I, II and III or any parts or derivative thereof, related to a species specified under Appendix III. This implies that the trade of such species to and from the State that took reservation of the said species, is unrestricted by CITES. They are allowed to do so, provided that they surrender all the rights and protections they received under CITES, insofar as the species that was reserved. This concept is dealt with under

[29] Status of Legislative Progress for Implementing CITES, Convention on International Trade in Endangered Species of Wild Flora and Fauna, 27 U.S.T. 1087; 993 U.N.T.S. 243 https://cites.org/eng/legislation/parties (November, 15, 2021, 15:34)

Articles 15, 16 and 23 of the CITES. The problem with such a provision is that the Signatory Parties can partake in unrestricted trade with respect to the reserved species or exotic animal product with other non-signatory countries[30]. This can have but one result: the continued depletion of an already endangered or endangering species. This provision holds back the progress made by CITES, even though it is completely avoidable.

G. Persistence of global Illegal trade in Exotic or Endangered species or Animal Products:

Wildlife protection under CITES is far from perfect, since its inception in 1963, the attendees realized that unregulated trade directly threatened certain species, yet the world had no way to control that. CITES now includes 183 governments and its listings has grown to some 35,000 species. The signatory states register about a million transactions per year, ranging from a single specimen to hundreds or thousands in legal trade[31].

To ensure that these trades are sustainable, the convention categorizes Species under appendixes, decisions to uplist or downlist species or remove an existing listing are made at the CITES Conference of Parties. Proposals such as listing require a 2/3rd majority vote to pass and are supposed to have scientific data backing the proposal[32]. This process has too much of bureaucracy as for many species, experts lack even the most basic data including the population ratio, which makes it absolutely impossible to evidence what levels of trade is actually sustainable.

Legally binding rules are broken with no regard to the objectives of the convention, the rules broken include those that govern the harvesting quotas and capture methods and the rules that dictate who can sell what and where. The rules governing and regulating transport and stipulate licensing are gone around with or enforcement authorities are bought off in order to turn the other way in such matters of violations.

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[30] Velázquez Gomar, J.O. and Stringer, L.C. (2011), J. O. Velázquez Gomar and L. C. Stringer. Env. Pol. Gov., 21: 240-258. https://doi.org/10.1002/eet.577

[31] Wijnstekers, W. (2018): The Evolution of CITES - 11th edition. International Council for Game and Wildlife Conservation

[32] Pervaze A. Sheikh, M. Lynne Corn, *The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)*, Congressional Research Service, 1, 15-16 (2016) (*Also see https://core.ac.uk/download/pdf/228605061.pdf*)

 ISSN: 2456-4605(O)

CITES' power lies in the fact that it is a binding international law, even though the non-compliance is rampant. For starters, countries regularly fail to turn in data on the number of seizures or trades they undertake per year. For example, China had reported importing 130 ivory "carvings," 40 elephant feet, 99 pounds of tusks, and zero trophies from Zimbabwe, all under the supposed label of legal "personal" items. Zimbabwe's records of exports to China over the same period, however, told a completely different story: 2,512 ivory carvings, eight elephant feet, four trophies, and 41 tusks. When trade data are even entered into the database at all, such glaring inconsistencies are often the norm.

Thus, there is a requirement for an organization such as the SEBI in India that looks into the financial transactions of the share market and regulates it to be established on a Global scale with a similar role and structure to regulate and hold people accountable for their actions and mishaps done on the part of the governments who turn the blind eye towards situations like the legal-yet- not-so-legal trade in exotic, endangered species of flora and fauna.[33]

Conclusion

After the thorough analysis and discussion, it is the opinion of the authors that CITES was a very important law and its presence made a considerable impact when it comes to curbing illegal international trade in specimens of endangered and exotic species of flora and fauna. However, the latest amendment to the CITES was in 1983[34]. And in over 3 decades since then, a lot of technological development has taken place and illegal trade in prohibited specimens is becoming less difficult with every passing year. The CITES is not up to date when it comes to tackling the new and emerging way of facilitating illegal trade with rapid growing technological advancements. The core intention behind the law is honourable and well-thought through, but due to lack of effective implementation, the goals laid down by it are far from achieved. Though the paper does not deal directly with suggestions for the improvement of CITES and its implementations, some of the additional readings mentioned under the Literature review provide a perspective of the same.

[33] Daniel W. S. Challender & Douglas C. MacMillan (2019) Investigating the Influence of Non-state Actors on Amendments to the CITES Appendices, Journal of International Wildlife Law & Policy, 22:2, 90-114, DOI: 10.1080/13880292.2019.1638549

[34] Rachel Nuwer, Poached: Inside the Dark World of Wildlife Trafficking, (DA CAPO PRESS)ISBN-13: 9780306825507, 2018.

FRATERNIZING THE ASPECTS OF ENVIRONMENT AND LAW OF SEA- AN INTERNATIONAL REGIME

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Abstract

A customary standard is a pre-requisite in any field of international law similarly the law of sea has also been established by consonant, continuous and recurrent practice by the comity of nations. Under the auspices of UNCLOS III, 1982 which resolved the seabed mining issue, the situation of technological advancement, exploration and exploitation and other developmental regimes were gradually growing. The International Sea-Bed Authority was established to govern the Area which was beyond the national jurisdiction keeping in mind that the resources are common heritage of mankind. Several treaties on different topics contribute to the development of an integrated legal regime, such is the regime of seas under the Constitution of the Oceans. Ocean fertilization to combat climate change, ocean governance, exploration in order to find new pharmaceutical products and mining are few areas which challenges the regime of UNCLOS III. Environment remains to be vulnerable, instances of rise in sea-level, melting of polar ice-caps causing open water across Arctic, re-distribution of the sea stocks due to habitat change, coastal erosion, ocean acidification, changes in sea-surface temperatures are major challenges which the world community has to face in the contemporary times. Marine environment has been a concern since1994 Agreement which provides for procedures and mechanism to ensure the protection of marine environment along with assessment of the probable environmental impacts from the exploration and exploitation activities. The evolutionary and dynamic nature of the activities in sea-bed area have high impact of creating disturbances in the marine life-cycle. The principle of conservation within the international legal framework that governs the domains of exploration and exploitation in the continental shelves is also creating an increasing insufficient twin goal of environment protection and sustainability and its ultimate focus on conservation in conjunction with economic trends on the metal-oriented economy, the concepts of 'development' and 'sustainable human development are arching issues.

Keywords: International soft law, UNCLOS, norms, marine pollution, biodiversity

Introduction

Historically, the seas were just a way for merchant and transit routes, with the gradual development and industrialization, the oceans became subject of national jurisdictions. The law of sea regime dwells in various aspects governing the subject in creating different zones, territorial waters, contiguous zones, exclusive economic zones and High seas. High seas are those areas which are beyond national jurisdictions and in this regard the Area is a common heritage of mankind. New technological advancements paved a corporate way of extracting resources from the bottom of the sea which is abundant in natural resources. The sedimentary rocks contain minerals which are main attractions for metal-oriented activities. UNCLOS III,1982 is considered as a the constitution of the oceans but this constitution also has some gaps, these gaps are complimented by various other international instruments and Treaties in order to reflect on the principles which are of priority in understanding the law of sea regime as a whole. UNCLOS III led to the establishment of International Sea-bed Authority, Commission on the Limits of the Continental Shelf and the International Tribunal for the Law of Sea. Numerous roles were conferred on the existing institutions for instance International Maritime Organization, Food and Agriculture Organization; new obligations and dynamic parameters were undertaken. International law and environment law are constantly emerging with various new challenges with the change in times and conditions, moreover such challenges are towards traditional attitudes in terms of substantive legal obligations and the methods of law-making which have been characterized and settled as per international norms. Likewise the concept of Sustainable development which was proposed in the Brundtland Report of 1987 is of importance when it comes to law of sea in regards with exploitation and regulation of resources ,the laws regulating the environment and sea merge again since they integrate to obtain economic developments. Modalities for implementing this concept has developed legal significance in their own right, such as the use of the precautionary principle, or approach, the ecosystem approach and inter-generational equity[1].

The current state of law is cumulatively looking forward for managing environmental impact, oceans occupy unprecedented spaces and the regulation is dynamic in conjecture with multiple perspectives in order to come to an understanding. Uncalled and unanticipated political circumstances are also massive hurdles in reaching to effective as

[1] E G D Freestone and E Hey, The Precautionary Principle and International Law: *The Challenges of Implementation,*Kluwer Law International,The Hague (1996).

well as affective conclusions. Law of the sea has to be dynamic and calculative in order to responsive to such new challenges so that it remains relevant and flexible while managing the ocean spaces.

International law is of an evolutionary nature; consequently, the treaties and principles upon which it is based are based on interpretation techniques; these techniques are of utmost importance when dealing with conflicting situations; and when it comes to settled norms, conflicts between states are avoided to the greatest extent possible so that they do not lapse due to premature obsolescence or additional amendments and modifications. Article 31(3)c of the Vienna Convention on the Law of Treaties provides for "any relevant standards of international law applicable to the relations between the parties," which is also a general legal principle, as evidenced by Golder v. United Kingdom, 1975. The International Court of Justice in the case of Namibia Advisory Opinion based its approach on the fact that the terminology and concepts in dispute "were by definition evolving," and not on a larger conception applicable to all treaties. In the Aegean Sea Continental Shelf Case, the World Court reaffirmed that treaties must be "interpreted and used within the framework of the complete legal system in effect at the time of interpretation" (1978). The Shrimp Turtle decision of the WTO Appellate Body referred to the Rio Declaration on Environment and Development,1992, the Convention on Conservation of Migratory Species,1979, the CITES Convention of 1973, the Law of the Sea Convention,1982, and the Convention on Biological Diversity,1992, all of which created the current definition of "exhaustible natural resources."

In the recent times, international law is more about accommodating and avoiding conflicts between existing regimes so that they yield amicable and harmonious results. New Agreements, such as the 1993 FAO Compliance Agreement, the 1994 Agreement to Implement Part XI of the law of the sea Convention and the 1995 United Nations Fish Stocks Agreement reflect the changing priorities of the States in the wake of the seminal 1992 UN Conference on Environment and Development in Rio De Janerio. They have a major impact on the LOSC regime[2].

UNCLOS as soft law

[2] Richard Barnes, David Freestone and David M Ong, The Law of The Sea: Progress and Prospects, 3 Oxford University Press.

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Conventionally the UNCLOS was a soft law based on unilateral declarations, bilateral agreements and state practices but overtime, it has become a part of hard law, in terms of practices and its establishment of various institutions that co-ordinate and cooperate in ocean related activities.

- Agenda 21 of 1992 with specific emphasis on chapter 17 is towards the protection of the waters of the oceans.
- FAO Code of Conduct for Responsible Fisheries,1995
- FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2001.
- IMO Code of Conduct Concerning the repression of Piracy and Armed Robbery against Ships in western Indian Ocean and the Gulf of Aden, 2009.

Soft law attracts because of its capacity that determines on consequentially quicker basis without the rigid formalities that are associated with treaty negotiations and formal procedures, soft law has a distinct approach towards facing the challenges of contemporary issues that require rapid actions and consideration. Resolutions of the United Nations General Assembly are manifestly evident on the same inferences, for instance that if 1969[3] and 1970[4]. The influence of UNGA Resolution of 1991[5] on Drift-Net Fishing was assumed as non-binding but it is the same base on which the foundation was formulated upon a moratorium on such practices.

The International Seabed Authority (ISA) under (UNCLOS), ISA is tasked with organising, regulating, and controlling all mineral-related operations in "the Area" for the benefit of humanity as a whole. It is obligated to ensure the proper preservation of the maritime environment from negative impacts that may result from activities involving the deep seabed. ISA is also solely responsible for promoting and encouraging maritime scientific research in the Area and coordinating the dissemination of its findings. Typically, parties to a convention or accord agree on a certain interpretation method or technique; similarly, parties to the Law of the Sea Convention practise and agree on consensus. LOSC is not an exception to the pattern of soft law conventions promoting the implementation of treaties; this is also true of LOSC. The FAO Code of Conduct on Responsible Fishing, 1995, and the FAO Plan of Action on Illegal, Unreported, and Unregulated Fishing, 2001,

[3] UNGA Resolution 2574 D (XXIV), *Basic Documents* No 16.
[4] UNGA Resolution 2749 (XXV), *Basic Documents* No 17.
[5] UNGA Resolution 46/215 (1991), *Basic Documents* No 47.

are famous examples of this pattern being implemented inside the realms of productive regimes operating in parallel with LOSC. Even the International Court of Justice has voluntarily considered sustainable development as a "interstitial norm" drawn from the Rio Declaration. It is reasonable to establish that the general rules of soft law governing the interpretation and application of treaties are manifest and effective.

Soft law general principles while interpreting the LOSC are highly demonstrated and adopted by consensus in 1992 Rio Declaration under Principle 15 which is infamously known as the precautionary principles. In the Southern Blue-fin Tuna case, the fisheries conservations under LOSC had a modified approach as per the precautionary principle. Similarly Article 1 which defines Pollution, the obligation to carry an environment impact assessment under the provision of Article 206, there is a general obligation as per which the measures are to be taken in order to reduce, prevent and control the pollution under Article 194. The States are under an obligation to protect and preserve the marine environment under Article 235, these mentioned Article undertake a more liberal approach to proof of environment risk as is envisaged under the auspices of precautionary principles. In the case of 1995 Fish Stock Agreement, under Article 6, it clearly suggests that if State Parties intend to prefer an inclined LOSC emphasized approach regarding the precautionary principle; or perhaps in regards with the conservation and preservation of the biological diversity, the parties may do so. In such a scenario the interpretation is agreed by consensus. The Report of the ILC(2000) concluded that precautionary principle is already incorporated in the provisions of prevention and prior authorization including environment impact assessment, and that 'it could not be divorced'[6]. It has been observed 'The point which stands out is that some applications of the principle, which is based on the concept of foreseeable risk to other States, are encompassed within existing concepts of State Responsibility'[7].

With the technological advancement and growth of economies on the lines of development, serious concerns are associated towards sustainable development, biological diversity, international watercourses, natural heritage, cultural property in the depths of the oceans and environment damages. The examples above mentioned are to reflect in the dimension that soft law need not be imbedded in the treaties and conventions and converted into 'rule'

[6] Rao, Report of the ILC(2000) GAOR A/55/10, para 716.
[7] 5th Edn., BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 285-286 (Oxford University Press, Oxford 1998).

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of international law, therefore interpreting the soft laws is a better alternative in effecting the changes rather than procedurally bringing an amendment or additional modification in already established and settled regimes, specifically; the Constitution of the Oceans.

Jurisprudence in regional and global agreements in implementing LOSC

The International Law Commission undertook codification during 1950s and LOSC offered a substantial approach towards a comprehensive and uniform global order, in doing so sustained an articulate regime. Regional cooperation in the LOSC is provided for enclosed and semi-enclosed seas under Article 122 and Article 123.The provisions of 1982 LOSC and 1995 UNFSA were pondered and implemented accordingly in the fisheries management case. Article 237 entails preservation related obligations which are already under existing agreements specifically on marine environment and simultaneously it needs them to be 'carried out in a manner which is consistent with the general principles and objectives of Law of Sea Conventions.

Regionalism might lead to fragmentation of a regime which is frequently associated with the immanent risk in any established institution by law which is based on consensus amongst States parties but interestingly dealing with the case of LOSC, it carries a significant source for further development in its universal medium with a parallel risk all together.

Even before coming into force, the general principles derived from constant State practices in form of regional agreement is evident on how Part XII rapidly assumed its structure as a part of codification process within the auspices of customary law on protection of marine environment[8]. LOSC has been implemented via various other agreements like UNEP regional sea agreement and FAO regional fisheries agreements.

Observing from the Rio Agenda 21 and the integrated ecosystem management along with Johannesburg Declaration, also to mention, the Plan of Implementation, it can be the ambition for adoption of new treaties under the regional sea programs of the North East Atlantic, Baltic, Mediterranean, and Caribbean. The significant agreements in this regard are-

- OSPAR Agreement,1992

[8] P W BIRNIE and A BOYLE, INTERNATIONAL LAW AND ENVIRONMENT 349 (Oxford University Press, Oxford 2002).

- The Helsinki Agreement,1992
- Barcelona Convention (1996 Protocol)
- The Kingston Protocol of 1999

From pollution prevention, the paradigm has shifted to a sophisticated protection of the marine biodiversity resources and life. Judge Yankov remarked 'It is hard to conceive of the development of the modern law of the sea and the emerging international law of the environment in ocean-related matters outside the close association and interplay between UNCLOS and Agenda 21'[9] . Several new instances have been entailed under Agenda 21 which are not found in the LOSC but they modernize the current practice and implementation mechanism-

-It is apparent that an integrated precautionary approach should be taken for protecting the marine and coastal environment. The State Parties must engage themselves while initiating account of scientific uncertainty while regulating and administering the risks on environment.

- Concentrating over marine degradation and taking measures for marine ecosystem must not be limited within just controlling the source of pollution.

-Protecting the Exclusive Economic Zones is coupled with sustainable development of coastal regions and the sustainable utilization of marine living resources.

Regional agreements have a limitation which is imposed by Article 237. With respect to regional, national or international for other kinds of agreements, the constraints are quite extensive as is mentioned under Article 311(3). Article 311(3) is structured over Article 41 and 58 of the 1969 Vienna Convention on the Law of treaties[10]. It especially focuses on 'basic principles'. The framers of the LOSC kept the integrity of an interdependent treaty regime which is reflective of a general treaty law ; of the Convention in mind, the residual rules of priority are found in Article30(4) of the VCLT, same is displaced in favor of Article 41 which stands for lex posteriori rule .

[9] Alexander Yankov, *The law of the sea convention and Agenda 21: Marine Environment Implications* in BOYLE and FREESTONE, INTERNATIONAL LAW AND SUSTAINABLE DEVELOPMENT: PAST ACHIEVEMENTS AND FUTURE CHALLENGES 270-295 (Oxford University Press, Oxford 1999).
[10] 5, M NORDQUIST and SATYA N NANDAN, UNCLOS 1982: A COMMENTARY 238-240 (Nijhoff, The Hague 1995).

 ISSN: 2456-4605(O)

The presumption is, in a situation of conflict envisaged under Article 311; LOSC will prevail over a later treaty dealing with the same matter, notwithstanding the lex posteriori rule. The commentary of ILC observed that 'the primary legal significance of a clause asserting the priority of a treaty over subsequent treaties in conflict with it appears to be in making explicit the intention of the parties to create a single 'integral' or 'independent' treaty regime that is not subject to contracting out; in other words, by expressly prohibiting contracting out, the clause predicates in unambiguous terms the incompatibility with the treaty of any subsequent agreement concluded by a party which derogate from the treaty'[11].

LOSC and the Convention on Biological Diversity

The evolution of a comprehensive legal regime may be attributable to consecutive treaties on distinct subjects. Law of Sea Convention makes no reference towards biological diversity and perhaps, after almost a decade, in the year 1992 during the Rio Conference, the Convention on Biological Diversity was adopted and its provisions are applicable on terrestrial as well as marine biodiversity. In these circumstances, the interpretation techniques are of utmost importance. Fishing activities directly affect the marine biological diversity which equally affects the regimes under Law of Sea Convention. In regards with the marine environmental matters Article 22 has a pre-requisite where parties are specifically required to implement the CBD 'consistently with the rights and obligations of the State party under LOSC'. This is crystal clear that they cannot neglect the rights of ship from their navigational freedom under Exclusive Economic Zone and the High Seas neither within the LOSC regime or already established customary law, in this context Article 22 of the CBD fortifies the terms which are prescribed under Article 311(3) of the LOSC. Parties to the CBD have wider freedom to deviate from Part XII than from other sections of the Convention because, as a *lex specialis*, Article 237 transcends Article 311[12].

In general understanding the effect of Article 22 of the CBD corroborate that the LOSC should triumphs, State parties to CBD cannot anticipate on the LOSC for justification or in order to tolerate fishing activities and fishing related practices that causes or threatens to cause harm to the biological diversity. Keeping in mind such a scenario, the CBD has

[11] ILC, 'Law of Treaties', Commentary to Draft Article 26, in 2 A D Watts (ed),The international law commission 1949-1998, 678 (Oxford University Press, Oxford 1999).
[12] 4, M NORDQUIST and SATYA N NANDAN, UNCLOS 1982: A COMMENTARY 423-426 (Nijhoff, The Hague 1995).

modified Part V and Part VII of the LOSC, now whether this is permissible within the scope of Article 311(3) is a question to ponder upon.

LOSC has been affecting on the institutional levels which is visible in the contemporary issues like the protection of cultural heritage, the ongoing impact on the major-law0making treaty is thought-provoking.

There is no provision governing the interface between the WTO Agreement and the General Agreement on Tariffs and Trade and other existing treaties in the WTO Agreement and the General Agreement on Tariffs and Trade. Article 3(2) of the WTO agreement on the Standards and Procedures Governing the Settlement of Disputes contains provisions with "covered agreements" that really should be interpreted in accordance with the customary rules of public international law. This also hints that while interpreting the WTO Agreements the Article 31 and Article33 of the VCLT shall be taken into account, and not specifically in accordance with the GATT principles of interpretation[13].

At the time of its conclusion, the 1982 LOSC was recognized as making a significant contribution to the protection and preservation of the marine environment[14].

(I) Certain Article are devoted to the protection of the marine environment have paved the way for jurisprudential studies in the field. Four features are notable to mention-

(II) The introduction for the first time in a treaty instrument of the general obligation to protect and preserve the marine environment[15]

(III) The elaboration, or incorporation by reference, of international minimum standards for the prevention, reduction and control of pollution of the marine environment from all the sources[16]

(IV) The inclusion of enforcement provision with respect to marine pollution in particular, with the innovation of Port State enforcement[17]

[13] WTO Appellate Body, Import Prohibition of Certain Shrimp and Shrimp Products (1998) WT/DS58/AB/R.
[14] 2 Eds., R R CHURCHILL and A V LOWE, THE LAW OF THE SEA, Chapter 15 (Manchester University Press, Manchester 1999).
[15] Article 192 of UNCLOS 1982.
[16] Article 194 of UNCLOS 1982.
[17] Article 218 of UNCLOS 1982.

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The application of the dispute settlement provisions of Part XV to the Convention of specified international rules and standards for the protection and preservation of the marine environment established by the LOSC[18].

CITES and LOSC

The wild fauna and flora is aimed to be protected under the international trade by the regulation of the CITES. The import, export and re-export of the live or dead animals is regulated under the auspices of CITES. Some species are threatened and some are not, there is a differentiation which is made between three categories: those species which are threatened with extinction, the trade must be strictly regulated, which means that trade shall be authorized in only exceptional circumstances. The ones that are not necessarily threatened at the moment with extinction and thirdly, the ones that are, in the eye of the State which has the jurisdiction over their exploitation. The approach of CITES in controlling the import and export was not new during 1973 but the fact that the mentioned Convention applied it on a global scale was innovatory[19]. The conflict easily evident in a number of global and regional fisheries management organizations can be resolved with proper cooperation, a fine example is the establishment of the International Whaling Commission.

The surplus jurisprudence flowing from World Court in consideration with the law of sea issues has been complimented by the work and progress of other international courts and tribunals, sustainable development of the oceans has been a major part that culminates environment with law of sea regime. The Court has contributed in parallel and complementary developments of International-Environmental law, linking the LOSC regime to the concept of sustainable development articulated in the instruments which emanated from the 1992 United Nations Conference on Environment and Development in Rio[20]. The 1997 Gabcikovo-Nagymaros Project judgment and the Codification and progressive development of the Sic utere tuo ut alienum non laedas, precautionary action and other fundamental principles of modern environment law were elucidated in this

[18] Article 297(1)(c) of UNCLOS 1982 and special arbitration under Annex VIII.
[19] 2nd Edn., P W BIRNIE and A E BOYLE, INTERNATIONAL LAW AND ENVIRONMENT, 626 (Oxford University Press, Oxford 2002).
[20] UNGA Res 55/2, Millennium Declaration, 8 September 2000.

judicial pronouncement and still, continue in the facilitate in the application of the 1982 LOSC within the framework of the UN Charter in the post-Rio/Johannesburg era[21].

Conclusion

Further evolution of the LOSC is possible and this has been taking place since decades via a wide variety of mechanism, including legally binding agreements and non-binding principles which are closely inter-linked as soft law principles. The corpus of the LOSC law is itself an example that the Convention will not wither away with time, chances of it being obsolete are rare since various other treaties and international instruments compliment the provisions of the regime giving it a catalytic effect. Since 1982, the development has taken place and is increasing in its momentum, marine biodiversity, cultural heritage, sea-bed exploitation are certain arenas which the Convention is facing challenges with, but as clear as a crystal, the LOSC still prevails and dominates the regulations in consideration with ocean related activities, be it fishing, international trade or navigation. It is an affirmative outlook that the Parties to the convention will continue to promote necessary developments within the framework of the Convention. LOSC allows for the international organizations to develop the Convention on basis of generally accepted principles and norms of the international law. Marine based initiatives such as the establishment and development of large marine ecosystem projects, meeting up with the international environmental treaties such as the Climate Change and the Biological Diversity Convention, the World Bank has also adopted for sustainable development agenda. Broader institutional and substantive developments by progressive methods and techniques of interpretation are employed to have a harmonious construction.

The development of law of the sea has become a question of governance of larger substantive rights and obligations. As De La Fayette notes, 'the subject of the ocean governance is extremely broad, potentially involving an analysis of the interaction among a large number of legal and policy instruments, as well as global and regional organizations and other bodies', the complexity of oceans and its governance is inevitable but by the collective conscience of the State Parties, it can be achieved. The regime is to be looked from an optimistic lens.

[21] B Kwiatkowska, *The contribution of the ICJ to the development of law of sea and the environmental law,* 8 Review of European Community and International Environmental Law 10-15 (1999).

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STOCKHOLM DECLARATION 1972: A CRITICAL ANALYSIS ON THE TRIBAL SUSTAINABILITY IN THE FACE OF TRANSBOUNDARY HARM

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Abstract

The exploitation of nature is at its height in the contemporary age, having a severe influence on their environment and other states. Whether the state in question shares a border with the state of origin or not, harm caused in the territory or other places under its power or control is referred to as "transboundary harm". In order to prevent catastrophic effects of transboundary harms on the country's geopolitics and the sustenance of its people who are directly dependent on environmental resources, such as the people belonging to the tribal community, numerous multilateral agreements and treaties have been signed among the nations. According to the Stockholm Declaration of 1972, it was decided that to address the persistent problems people confront due to transboundary damage, new laws and regulations needed to be evaluated. The current situation is demonstrated by the declaration of these tribes' and communities' sustenance and livelihood as being adversely impacted by environmental problems. Even in the modern world, when a sizable portion of the population is still tribal and thus largely dependent on natural resources. One has to pursue sustainable development to adapt traditional/customary practices to safeguard the natural habitat. The denotified groups is affected by the present global innovations in a variety of ways to combat with such issues, It is critical to offer the notion of a sustainable future that is green. The authors in the current research paper will attempt to relate the problem of extra territorial environmental damages with the people who are closest to nature and whose lives are solely dependent on the natural environment, the paper will also analyze the laws related to environment as per international conventions. The second part of the paper will discuss the cooperation of the world's most advanced countries to come out as one, against the environmental injustice towards the people belonging to remote areas, in the concluding part authors will try to analyse the environmental discrepancy with the contemporary tribal communities ending up with a conclusion.

Keywords: International Conventions, Denotified Groups, Stockholm Declaration, Transboundary Harm, Tribal Communities

Introduction

Growing industrialization and urbanization have given rise to escalator economic growth, but its shortcomings are evident in the quality of natural resources. To overcome these struggles and save the world against climate-changing factors, many efforts have been made since the past till today. One such effort was the Stockholm declaration of 1972, which was intended to establish a link between environmental issues and economic growth in developing and industrialized countries.[1] The ongoing establishment of various industries in the name of development within one's political limits has caused transboundary harm to other regions. The problem of transboundary harm is the cause of the destruction of the source of livelihood for many denotified people who depend solely on natural resources for their sustenance. The current situation is alarming as there has been an abrupt emission of greenhouse gasses which has led to an imbalance in the ecosystem and which is quite evident in the indigenous communities—referring to somewhat 20 indigenous groups from different parts of the world whose livelihood is being disturbed abruptly due to unpredictable weather in their regions which is a result of climate change which is the effect of transboundary harm. These communities are compelled to relocate from their homes as their traditional lands are not cultivable[2]. Industrialists and blue-collar workers frequently exploit people from indigenous communities. As a result, they must have their rights protected by international law to live the life they desire. The management of the world's oceans and fisheries, the polar ice caps, and the regulation of carbon and other particulate emissions into the atmosphere are all critical domains for international regulation. The idea of a green environment should not compromise the importance of development. For that very reason, the concept of sustainable development was first proposed in the United Nations on the concern related to human rights in the stockholm declaration of 1972 was so concerned with environmental issues. [3]The motive of the meeting was to emphasize that the many elements, such as overpopulation, economic development, and industrialization, all contribute to environmental degradation. It was mainly focused on safeguarding the right to live in a clean and healthy environment. The

[1] About,stockholm declaration, available at https://www.stockholmdeclaration.org/about/ last visited october 27, 2022

[2] Five ways climate change harms indegenous people athttps://www.climatechangenews.com/2014/07/28/five-ways-climate-change-harms-indigenous-people/ last visited at october 27,2022

[3] International environmental law- LAW TIMES JOURNALat https://lawtimesjournal.com/international-environmental-law/ last visited at october 27,2022

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need of the current era is deviant from past times. The needs of today cannot be compromised, but with some collective and adjustable measures, the problem can be resolved to some extent. Adapting to simple habits can bring impactful changes in the climate and could advance the growth towards healthy nature.

Environmental Issues

Many anti-environmental behaviors have resulted in mother earth's degradation due to the world's progressive advances through industrialization and economic growth. In contrast to the flourishing of enterprises, there has been a precipitous rise in global warming, a source of concern. Climate change refers to long-term changes in temperatures and weather patterns. These shifts could be natural, such as oscillations in the solar cycle. However, human activities have been the dominant source of climate change since the 1800s, primarily due to fossil fuels such as coal, oil, and gas.[4]Climate change is causing unpredictable weather conditions, which are disrupting our environment. To grasp the concept of climate change, one must first understand how it is the cause of many current problems in agricultural, livestock, and marine life mutation, as well as how it pollutes nature as a whole, such as air, water, and land, which are needed for life. According to current United Nations climate change assessments, global warming is anticipated to reach roughly 3.2 degrees Celsius by the end of the twenty-first century.[5]

Transboundary Harm

Transboundary harm defines an act of a state by which any other state or territory outside of its political domain or jurisdiction suffers any environmental harm. In actuality, the much-publicized Trail Smelter example exemplifies this harm. Almost all international environmental law and accountability debates begin with the Trail Smelter arbitration, one of the oldest manifestations of the notion that a state bears responsibility for environmental damage that extends beyond its borders.[6] According to the trial smelter arbitral tribunal, when the case is of serious consequence, and the injury is established by clear and convincing evidence, no State has the right to use or permit the use of its territory in such a way as to cause injury by fumes in or to the territory of another, or the properties or

[4] What is climate change? United nations available at https://www.un.org/en/climatechange/what-is-climate-change last visited on october 27,2022.
[5] What is climate change? United nations available at https://www.un.org/en/climatechange/what-is-climate-change last visited on october 27,2022.
[6] Transboundary harm in international law available at https://blog.ipleaders.in/transboundary-harm/ last visited on october 27, 2022

persons therein." but the several countries have violated this in the name of development which is not only a violation of the right to clean and healthy environment of its neighbouring countries or any state that may get affected due to its anti environmental activities. Apart from the accumulation of the unearthly materials on the planet which has led to pollution and its effects are creating a problem of sustenance to the people who are not in the mainstream of the society like the tribes who are dependent on forest and natural resources to lead their lives.

Stockholm Declaration 1972

The first ever effort made in order to discuss the issues related to environment which was held to discuss the issues such as global warming and the conditions in the world due to heavy industrialization by the many countries . in this conference there was the involvement of almost 114 countries worldwodewith the goal of coming up something as effective that could make the world free from any sort of pollutants. It was united nations conference on the human environment. Its been 50 years since the first ever international conference on environment was held but still the question is still how and to what extent laws can be made in order to save the environment as the compromise with the growth and development is not the solution, but one of the main thing that came out of the stockholm declaration was the concept of transboundary which was stated as a violation of right of other countries to lead a healthy and clean environment.

The conference proposed four main ideas, the first of which was to implement the right to a healthy environment, because living a life free of pollutants is everyone's right. The second goal was to recognize, restore, and protect the global commons. The third goal was to create a regenerative economy. Fourth, governance and institutional solutions were prioritized.[7]

With regard to the provisions of the declaration 26 principles were taken into consideration out of which the management of natural resources is something that could help in achieving the idea of sustainable development as in the various drawbacks that are caused due to uneven usage of the resources from nature and the management of these resources could be helpful in forming the ideal environment and living conditions for the tribal people who are closest to the gifts of nature and whose lives are predominantly affected by the

[7] Stockholm declaration 1972 available at https://www.stockholmdeclaration.org/about/ last visited on october 27, 2022

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mismanagement of these resources. The goal to brought a positive change in the lives of the idegenous people from all over the world the world has to come together the cooperation of every country on a equal level towards the law for protecting our environment and to safeguard the rights of people to life of a healthy and clean environment.[8]

Environmental Concerns

The phrase "environmental injustice" describes a series of deeds that endanger the environment while also alienating certain populations and groups. A frequent illustration of this situation is a business that contaminates nearby water supplies, which leads to tainted drinking water and public health issues.

The isolation and segregation of particular groups within communities is a root cause of environmental injustice. These groupings often correspond to socioeconomic, racial, and other distinctions. Even though there are ongoing initiatives to address it, environmental injustice still exists.[9]

Many people believe that one of the biggest issues of our day is the environment. Environmental change brought on by humans is severe and pervasive on a national, regional, and international scale. Border-crossing air and water pollution, the effects of resource extraction, decreased freshwater quality and quantity, nuclear accidents, and international commerce in hazardous waste and toxic chemicals are only a few examples of regional environmental concerns, or issues affecting many nations. Environmental issues include ozone depletion, species extinction, ocean pollution, loss of biodiversity, diminishing food supply and reduced fish stocks, deforestation, and anthropogenic climate change are all issues that affect us on a global scale.[10]

Environmental hazards and pollution sometimes have a transboundary component, posing challenges for and causing harm to nations other than the source state as well as to

[8] Major provisions in the stockholm declaration- iplleaders available at https://blog.ipleaders.in/major-provisions-in-the-stockholm-declaration/#:~:text=The%20main%20purpose%20of%20the%20Stockholm%20Declaration%20was,and%20to%20protect%20from%20several%20other%20environmental%20issues. Last visited on october 27,2022.

[9] *What causes environmental injustice?: Ben Crump Law, PLLC* (2022) *Ben Crump*. Available at: https://bencrump.com/environmental-justice-lawyer/what-causes-environmental-injustice/ (Accessed: October 22, 2022).

[10] *The prohibition of transboundary environmental harm - duo* (no date). Available at: https://www.duo.uio.no/bitstream/handle/10852/41416/213.pdf (Accessed: October 22, 2022).

international commons. A well-known illustration is when an upstream state pollutes a river, resulting in harm to a downstream state.

Only by cooperation and collaboration between nations can issues of border-crossing injury and pollution be effectively handled, and in this regard, international law and institutions are crucial in creating a framework within which the members of the international community may interact. The conventional reaction of international law to transboundary issues has been to hold the responsible state accountable and thus demand that the state desist from the activity that is causing damage, as well as to provide proper recompense to the wounded state.

States are becoming more aware of the need to find global solutions to environmental problems and the need for rules for the protection of natural resources and the environment as a shared resource for all states as instances of cross-border environmental damage have significantly increased as a result of industrial development, new technology, and population growth. International environmental law is a result of this insight. International environmental law is the area of international law that deals with the rights and responsibilities associated with the management of the environment and natural resources. It encompasses both a body of evolving environmental-specific norms and general international law norms that are applied to environmental issues.

Environmental injustice and violations of human rights are intricately linked. For instance, research has found a substantial correlation between environmental degradation and human rights abuses, indicating that many instances of environmental degradation also involve human rights abuse (Dias 1999; Johnston 1994). Environmental injustice and violations of human rights are implied by the seizure of community lands, the eviction of indigenous populations, the exploitation of natural resources, and the disposal of hazardous waste.[11]

Negotiation of an international convention has been sparked by the rising concerns over the transboundary shipments of hazardous waste and the worldwide knowledge of the real and prospective consequences of hazardous waste on the environment and public health in importing nations. Although thoughtful initiatives have been made to address environmental justice concerns in the United States, comparable initiatives to stop the

[11] Adeola, F.O. (2017) "Environmental injustice and human rights abuse: The States, mncs, and repression of minority groups in the world system," *Environmental Rights*, Vol. 8, pp. 3–23. Available at: https://doi.org/10.4324/9781315094427-1.

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export of hazardous materials from core countries to peripheral countries are woefully insufficient

The Basel Convention, which controls the transboundary transport and disposal of hazardous wastes, was created in response to poor nations' requests that the international community limit or restrict the trade in hazardous wastes There have been a number of agreements to limit the transboundary flow of garbage at the regional and international levels. Examples include the Lome Convention, which the European Union (EU) and 69 African, Caribbean, and Pacific countries signed, and the Bamako Convention, which was ratified by the Organization of African Unity (OAU) members.

In comparison to earlier times, when the idea of state sovereignty was used as a veto power to remove all international commitments, it may be said that the international community has advanced significantly. Today, international standards and concerns take precedence over national interests. In actuality, environmental issues are not limited to a single state or set of states. Due to its natural and physical characteristics, every incident, experiment, or event occurring within a national jurisdiction will inevitably influence, disrupt, or produce a worldwide environmental situation. As a result, the issue is valid and well-founded.[12]

Three types of transboundary environmental harm are most frequently present: air pollution, contamination of a transboundary watercourse, and transboundary waste shipping or dumping. The regulation pertaining to the contamination of transboundary watercourses is likely the most established of these and offers the most beneficial examples. A state could also affect the global commons or the environment on a larger scale.

The fact that nations around the world have prioritised their sovereign and economic interests over their obligation to uphold environmental standards and, as a result, have not strictly complied with international law is one of the main reasons why there are no standardised rules regarding environmental harm. As a result, efforts to establish a rigorous liability system and the conventional notion of a norm of due diligence have not succeeded as international customary law.[13]

Tribal Concerns

[12] Tarun, J. (2008) "Trans-Boundary Harm: An Environmental Principle in International Context ," *The Icfai University Journal of Environmental Law*, Vol. 7(No. 4), pp. 10–22. Available at: https://doi.org/https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1087596.

[13] Rishabh, R. (2021) "Responsibility V. Sovereignty: Transboundary Environmental Harm," *IJLMH*, pp. 598–606. Available at: https://doi.org/http://doi.one/10.1732/IJLMH.26106.

The Stockholm Conference and the Declaration on the Human Environment, which took place in 1972, officially acknowledged environmental concerns as a distinct class of global challenges and ushered in the modern age of international environmental law. Since then, the transboundary aspect of pollution has become more light due to the global nature of trade and consumption. However, like other types of pollution, transboundary contamination is frequently incidental or locality-specific and does not necessarily call for the international community's continued attention. In the context of tribes that cross international borders, the truth of the isolation and remoteness of the environmental concerns rings true. For instance, major issues like pollution that affect vast swaths of land and are transboundary in nature receive a lot of attention. The United Nations Conference on Environment and Development, often known as the Rio Conference, was where the worldwide community gathered in 1992 to renew its commitment to environmental issues that were of considerable international importance.

With the US, Canada, or Mexico, more than 40 indigenous groups share a border. Threats to the ecological integrity of many tribal communities near international borders have recently been of little concern. However, ecological issues brought on by pollution and other contaminants undermine tribal health and cultural integrity as part of the overall problems that tribes confront.[14]

Through the signing of several bilateral and multilateral agreements, the resultant document strengthened the international community's ongoing commitment to the global nature of protecting and conserving the Earth's environment. For the first time, provisions addressed the increasing concern over transboundary contamination. Native populations downstream and upwind have limited ability to defend their members from transboundary contamination outside of persuasion, persistent application of the theory of comity, or the pendulum-like goodness of their respective spatially coextensive sovereign.

Given this backdrop, it stands to reason that upwind and upstream international nations have little motivation to utilise their political clout to impose regulations on polluters that are located close to their borders and whose waste streams have little to no discernible impact on their own population. Therefore, individuals and nongovernmental groups must

[14] Lepsch, P.D. (2003) "Ecological Effects Know No Boundaries: Little Remedy for Native American Tribes Pursuing Transboundary Pollution under International Law," *Buffalo Environmental Law Journal*, Vol. 11(1). Available at: https://doi.org/https://digitalcommons.law.buffalo.edu/belj/vol11/iss1/3.

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exert consistent and growing pressure to encourage national governments to regulate and intervene more in border regions.

Tribes living on the frontiers must not only devise inventive ways to get through the minefield of domestic and international legislation, but also put in place structures to maintain or maybe achieve levels of self-determination not seen in many generations. Tribes that live on both sides of international borders must consider a variety of domestic and legal remedies to address challenges to their culture and ecology.

Indigenous peoples are especially susceptible to having their rights violated by environmental degradation because of their intimate connection to the environment. "The implementation of natural resource extraction and other development projects on or near indigenous territories has become one of the foremost concerns of indigenous peoples worldwide, and possibly also the most pervasive source of the challenges to the full exercise of their rights," the Special Rapporteur on the rights of indigenous peoples has stated (A/HRC/18/35, para. 57).

The rights of indigenous peoples are intended to be protected by the International Labour Organization convention 169 and the United Nations Declaration on the Rights of Indigenous Peoples, but human rights organisations have also interpreted other human rights conventions to safeguard those rights. The interpretations have come to largely agreeable findings about the responsibilities of States to defend indigenous peoples' rights against environmental harm. The Special Rapporteur on the rights of indigenous peoples has provided detailed explanations of the obligations on States to uphold such rights in his reports. Therefore, just a few key elements are covered in this section.[15]

First and foremost, States must acknowledge the rights of indigenous peoples with regard to the land they have long occupied and the natural resources they rely on. Second, States must make it easier for indigenous peoples to participate in choices that affect them. According to the Special Rapporteur, there are only a few clearly defined exceptions to the general rule that "extractive operations should not take place inside the territory of indigenous peoples without their free, prior, and informed agreement" (A/HRC/24/41, para. 27). Thirdly, States must provide for an evaluation of the effects of development operations

[15] Knox, J.H. (2013) A/HRC/25/53, Report of the Independent Expert on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, John H. Knox. A/HRC/25/53. rep.

on indigenous lands before allowing them to proceed. Fourth, States are required to ensure that any impacted indigenous population receives a fair benefit from any such development. Finally, States are required to make remedies, such as compensation, available to anyone harmed by the actions.

Fundamentally speaking, environmental contamination poses major risks to the cultural and political existence of border tribes. States must do more than simply acknowledge the hazardous situation in which tribes find themselves. Additionally, the international community must establish legal frameworks that will enable native people to seek adjudicatory relief in addition to non-binding international instruments that designate the universal rights possessed by indigenous peoples.

Sustainable Development in tribal areas

In 2015, the United Nations introduced the Sustainable Development Goals[16], also known as the Worldwide Goals, as a global call to action to end poverty, safeguard the environment, and promote peace and prosperity by 2030.

The 17 SDGs[17] are interrelated, recognising that actions in one area have an impact on outcomes in others, and that progress should balance social, economic, and environmental sustainability.

Thus, despite constitutional safeguards and specific welfare programmes, schemes, dedicated economic measures, and institutions, indigenous persons remain substantially behind the mainstream populace in the Human Development Index[18] (HDI). The herbal resource base of the panorama acts as a source of inspiration for tribal subsistence as well as a tool for increasing their HDI. Each rural tribal institution's crucial requirement for life and prolonged human development demands the safety and enhanced control of herbal supplies and the forest, water, livestock, and soil as integrated ecosystem components. This demands the use of built-in panorama control. In contrast to the topic-based approach to

[16] Sustainable development goals: United Nations Development Programme (no date) UNDP. Available at: https://www.undp.org/sustainable-development-goals (Accessed: October 30, 2022)

[17] ibid

[18] Nations, U. (2022) *Human development index*, *Human Development Reports*. Available at: https://hdr.undp.org/data-center/human-development-index?utm_source=EN&utm_medium=GSR&utm_content=US_UNDP_PaidSearch_Brand_English&utm_campaign=CENTRAL&c_src=CENTRAL&c_src2=GSR&gclid=Cj0KCQjwnvOaBhDTARIsAJf8eVMbWvde1W_YMi9swtSDrhODBuJ8z-8qHnQWDWWo6ouahYZ3pG6eBZgaAiucEALw_wcB#/indicies/HDI (Accessed: October 30, 2022).

 ISSN: 2456-4605(O)

tribal development, IBRAD[19] is developing a strategy for sustainable tribal development within the context of the SDGs[20] (Sustainable Development Goals). IBRAD's[21] approach to sustainable tribal development focuses on strengthening tribal communities ability, with a special emphasis on women and youth, natural resource conservation, community empowerment, and conservation-based community development. Develop sustainable living development by establishing adequate social norms and structures for community-led social conduct.

Facilitating tribal peoples' development closer to the SDGs presents specific challenges exacerbated by climate change, increasing the tribal community's vulnerability. The Sustainable Tribal Development strategy makes it possible to achieve the goals of "No Poverty (SDG 1) and Zero Hunger (SDG 2)." In a constructive sense, it needs activity to alleviate poverty, improve fitness and livelihoods, and strengthen the resilience of vulnerable groups. We feel it is more than just a loss of money or wealth; poverty is regarded as multi-dimensional. Poverty can also include a lack of access to basic essentials such as health, well-being (SDG-3), nutrition, and food safety.

IBRAD has launched various programmes to expand nutrition natural kitchen gardens, establish fruit trees to end hunger (SDG-2) and ensure tribal people, particularly the poor and those in vulnerable situations, including newborns, have access to safe, nutritious, and sufficient meals all year round. Health awareness camps will assist in connecting the network with the Public Health Centre (PHC) or the sub-middle to manipulate unnecessary deaths of newborns and children under the age of five, to lower neonatal mortality and improve network well-being (SDG-3).

Long-term livelihoods benefit from conservation of biodiversity, soil, and water. Furthermore, biodiversity and fruit trees are seen to be especially significant for the impoverished because they provide low-cost insurance against food insecurity hazards for tribes who lack alternative risk management measures (SDG-4). IBRAD built 'Prashikshan Shivir'[22] and created a harvest calendar-based course structured after 'Farmers Field School'[23] to promote inclusive and equitable education. Capacity development, transfer of

[19] Admin, I.B.R.A.D. (2022) *Sustainable tribal development*, *Indian Institute of Bio - Social Research And Development*. Available at: https://www.ibradindia.org/sustainable-tribal-development/ (Accessed: October 30, 2022).
[20] Supra note 1
[21] Supra note 4
[22] ibid
[23] ibid

appropriate technologies, promotion and implementation of possibilities for lifelong learning (SDG-4). The Women Empowerment Project, in accordance with the Joint Forest Administration Policy, has assisted the family in understanding proper gender roles and providing women (SDG-5) with economic resources and access to ownership and administration of natural resources and financial services.

Organic farming has improved water quality by reducing pollution and minimising the release of hazardous chemicals and materials. Drip irrigation and rainwater collecting boost water-use efficiency and enable sustainable freshwater consumption in village-like Jhargram (SDG-6). Sustainable forest resource harvesting to make certain sustainable consumption and production patterns (SDG -12) has been implemented in partnership with the state Forest Department through the Joint Forest Management Program. A strategy plan has been prepared as part of the battle against climate change and its repercussions to promote education, raise awareness, and build institutional capacity on climate change early warning, adaptation, impact reduction, and mitigation for sustainable agriculture (SDG-13).

The link between agrobiodiversity and agricultural productivity, variability, and yield shocks has received much attention in ecology and agronomy literature. Diverse crop species, for example, have been shown to adapt better to environmental changes due to their bigger pool of diverse metabolic characteristics and metabolic pathways, which allows them to use resources like water and soil nutrients more effectively over a wide range of climatic situations. The preservation of agro-biodiversity as a seed bank can safeguard tribal populations from negative environmental consequences and strengthen the system's resilience in the face of unfavourable weather patterns caused by climate change. Considerengily, there is an urgent need to maintain, restore, and promote the long-term use of terrestrial ecosystems and long-term forest management to reverse land degradation and prevent biodiversity loss 15.

On September 25, 2015, the United Nations Department of Economic and Social Affairs[24] adopted the 2030 Agenda for Sustainable Development, titled "Transforming Our World: the 2030 Agenda for Sustainable Development." The Agenda went into effect on January 1, 2016 and will last for the next 15 years. It is a broad and universal policy objective

[24] UNDP (no date) *Indigenous peoples and the 2030 Agenda for Indigenous Peoples*, *United Nations*. United Nations. Available at: https://www.un.org/development/desa/indigenouspeoples/focus-areas/post-2015-agenda/the-sustainable-development-goals-sdgs-and-indigenous.html (Accessed: October 30, 2022).

 ISSN: 2456-4605(O)

comprised of 17 SDGs and 169 related targets that are considered interconnected and indivisible. The agenda word of honor to leave no one behind and to arrive first in the most isolated locations.

Conservation, as imposed through the establishment of protected areas and enforced by anti-poaching squads, is causing eviction and abuse of large numbers of people, particularly indigenous peoples, while failing to halt the escalating environmental crisis. For thousands of years, tribal peoples in South Asia have coexisted with tigers, but they are now facing eviction in order to protect the species. According to evidence from Nepal's Chitwan national park, tiger populations may be higher in areas where humans live than in areas where they have been expelled[25]. People provide a variety of habitats, as well as eyes and ears, to identify and prevent poachers. Instead of recognising indigenous peoples' rights to their land, the Indian government has created additional parks, increased evictions, and pushed to attract more visitors. "There is a simple reason for this: for millennia, indigenous peoples have managed, preserved, nourished, and transformed their land, and they have more knowledge and motivation to defend their area than anybody else."

Some of the important provisions in the perspective of India

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)[26], sanctioned by India in 2007, recognises indigenous peoples' rights to self-determination, autonomy, or self-governance, as well as their right to free, prior, and informed consent before being forcibly relocated or relocated from their lands or territories. Aside from the UNDRIP, the 1989 International Labour Organization (ILO) Convention Concerning Indigenous and Tribal Peoples acknowledge indigenous peoples' "right to land and natural resources"[27], as well as the ability to set their own development goals." India is not a signatory to this, although it is a signatory to the International Labour Organization's 1957

[25] Guardian, T. (2015) *Conservation and the rights of tribal people must go hand in hand | Jo Woodman*, *The Guardian*. Guardian News and Media. Available at: https://www.theguardian.com/environment/2015/apr/23/conservation-and-the-rights-of-tribal-people-must-go-hand-in-hand (Accessed: October 30, 2022).

[26] UNDP *Observations on the State of Indigenous Human Rights in India* Available at https://www.culturalsurvival.org/sites/default/files/INDIAUPR2016final.pdf (Accessed: October 30,2022)

[27] *C169 - indigenous and tribal peoples convention, 1989 (no. 169)* (no date) *Convention C169 - Indigenous and Tribal Peoples Convention, 1989 (No. 169)*. Available at: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB%3A12100%3A0%3A%3ANO%3A%3AP12100_ILO_CODE%3AC169#:~:text=Indigenous%20and%20tribal%20peoples%20shall,female%20members%20of%20these%20peoples. (Accessed: October 30, 2022).

Convention on the Protection and Integration of Indigenous and Other Tribal and Semi-Tribal Populations in Independent Countries, which is no longer in force and cannot be ratified.

Domestically, the Fifth Schedule[28] and Sixth Schedules[29] of the Constitution grant tribal areas autonomy in governance, which is reinforced by the Samatha V. State of Andhra Pradesh & Ors[30] decision, in which the Supreme Court stated that the shift of tribal land to private parties for mining was null and void under the Fifth Schedule. The Recognized Forest Rights Act reinforces the framework for protecting tribal and indigenous peoples' protections in forest areas by protecting tribal peoples' individual and community rights, as well as their right to free and prior affirmative decision in the event of displacement and resettlement.

Conclusion

The world's collaborative attempts to safeguard Mother Earth from various environmental damages have been going on for decades. The first ever concern conference that was raised on an international level was the Stockholm Declaration in 1972. This has awoken every person on the planet to the dire situation and that quick action is required if we are to conserve the priceless gifts of nature that are being depleted due to expanding industrialization. The consequences of such conduct not only harm one location, but can be seen worldwide, constituting a violation of people's rights to a healthy and clean environment. The meeting held over 50 years ago was a spectacular act, and the reason for this is that we have an entire international law on environmental protection, violations of which can result in terrible consequences. People from all over the world who belong to an indegeneous group are mostly affected by the actions of industries because they pollute the environment so badly that it affects the lives of these people, whose lives are solely dependent on nature, or we can say that they are basically interconnected. The devastation done to environment has a direct impact on the tribal people. The concept of sustainable development does not compromise development to conserve the environment, but rather maintains a healthy balance between industrial needs and environmental safety. The

[28] *Constitution of India* (no date) *CAD*. Available at: https://www.constitutionofindia.net/constitution_of_india/article_244_1_/articles (Accessed: October 30, 2022).
[29] *Constitution of India* (no date) *CAD*. Available at: https://www.mea.gov.in/Images/pdf1/S6.pdf (Accessed: October 30, 2022).
[30] MANU/SC/1325/1997

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objective of having a pollutant-free environment can only be achieved with the participation of each and every human on this planet, and little and wise changes/adaptation can bring about a huge improvement in the planet's condition.

RESPONSIBILITY AND LIABILITY OF UPSTREAM CITIES FOR THE PUBLIC NUISANCE TO THE DOWNSTREAM CITIES ALONG THE RIVER GANGA

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Abstract

Along its 2,525 km path from Gaumukh to the Bay of Bengal, along the Indo-Gangetic Plains of northern India, the Ganga acts as a lifeline for approximately 400 million people, primarily in the states of Uttarakhand, Uttar Pradesh, Bihar, and West Bengal. The river is conducive for agriculture, industrial activities, fisheries, etcetera, wherein these activities are particularly concentrated, between Haridwar and Varanasi. The Ganga gets heavily polluted in the Middle Zone. The said pollution, which amounts to a Biological Oxygen Demand Load of 55.59 tonnes per day in Uttar Pradesh, affects the personal health and comfort of the people in the downstream communities of Bihar. The lower number of untapped drains and a lesser number of industries allow the Ganga to self-purify itself within Bihar, where the average Biological Oxygen Demand reduces significantly. Heavy metals like cadmium, cobalt, chromium, copper, iron, selenium, lead and zinc enter the Ganga from the Kanpur-Unnao industrial area, which is laden with approximately 1,635 functional units of tanneries. The ongoing and non-emergent pollution in the Ganga disallow the downstream communities to approach the court under Section 133 of the Code of Criminal Procedure, 1973; however, the said communities can take the recourse of Section 268 of the Indian Penal Code, 1860 (for public nuisance), and Sections 2 and 24 of the Water (Prevention and Control of Pollution) Act, 1974. A civil court is approachable for the tort of public nuisance, wherein the industries, municipal bodies and civic authorities in the polluting areas of Uttar Pradesh must not only pay damages to the said communities for their respective share in the pollution of the Ganga but also pay the cost of restoring the environmental degradation of the Ganga in their respective polluted areas.

Keywords: River Ganga, Heavy Metal Pollution, Public Nuisance, Polluter Pays Principle, Tortuous Liability.

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Introduction

The River Ganga (hereinafter referred to as the "**Ganga**") starts as the assemblage of the River Bhagirathi and the River Alaknanda at Devprayag, wherein the former is nursed directly by the Gangotri and Khatilang glaciers, at Gaumukh, in the narrow gorges of the Himalaya Mountains whilst the latter is fed directly by the Satopanth and Bhagirathi Kharak glaciers at Badrinath.[1,2] The Ganga flows south and east from the Himalayas, wherein it flows for a distance of approximately 2,525 km through the Indo-Gangetic Plains of northern India before emptying itself into the Bay of Bengal. The river acts as a lifeline for approximately 400 million people.[3] From a socio-economical standpoint, the average discharge of 1,000-60,000 cubic metres per second from glacial melt, snow-melt, monsoon runoff and groundwater resources, and an average Total Annual Sediment Flux of 262-680 MT,[4] makes the river conducive for agriculture (90 per cent of the withdrawn water), hydroelectric power generation, fishery, transportation, etcetera.[5] The Ganga also serves a religious purpose for Hindus. Hindus believe that the sight and the touch of the river (*Gangaajal*) cleanses one of their sins, pain and suffering, wherein a dip in the water supposedly bestows one with heavenly blessings and prosperity.[6] Many people approach the river with the confident belief that a ritualistic dip or a wash would grant them their prayers from Goddess Ganga.[7] Hindus believe that the ashes of a dead Hindu, when bought and immersed in the Ganga would result in their soul reaching salvation whilst liberating them of their earthly sins.[8]

The Ganga can be distinctly divided into three zones: **Upper Zone** (from Gaumukh to Haridwar), **Middle Zone** (from Haridwar to Varanasi), and **Lower Zone** (from Varanasi to Ganga Sagar). Most of the human interventions and anthropogenic activities are within the Middle Zone, whereby widespread dumping of untreated pollutants from agricultural,

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[1] Shikha Goyal, *What is the origin of holy river Ganga?*, JAGRAN JOSH (Mar. 20, 2020, 3:59 PM), https://www.jagranjosh.com/general-knowledge/what-is-the-origin-of-holy-river-ganga-1536924684-1.

[2] Brijmohan Bisht, *Alaknanda River*, eUTTARANCHAL (Dec. 01, 2020), https://www.euttaranchal.com/uttarakhand/alaknanda-river.php.

[3] Amanda Briney, *Geography of the Ganges River*, THOUGHT CO. (May. 24, 2019), https://www.thoughtco.com/ganges-river-and-geography-1434474.

[4] Munsur Rahman et al., *Recent sediment flux to the Ganges-Brahmaputra-Meghna delta system*, 643 SCI. TOTAL ENVIRON. 1054, 1058-1062 (2018).

[5] Golam Rasul, *Water for growth and development in the Ganges, Brahmaputra, and Meghna basins: an economic perspective*, 13(3) INTL. J. RIVER BASIN MANAGEMENT 387, 387-388 (2015).

[6] Subhamoy Das, *The Ganges: Hinduism's Holy River*, LEARN RELIGIONS (Apr. 12, 2019), https://www.learnreligions.com/ganga-goddess-of-the-holy-river-1770295.

[7] Rachel Cohen, *Holy Ground: Hindus and the Ganges River*, IMB (Jan. 04, 2019), https://www.imb.org/2019/01/04/holy-ground-hindus-and-the-ganges-river.

[8] Jayaram V., *Symbolic Significance of the Descent of Ganga*, HINDU WEBSITE (n.d.), https://www.hinduwebsite.com/ganges.asp (last visited Oct. 10, 2022).

industrial and domestic sources are seen in this zone.[9] According to Toxic Link, a Delhi-based organisation, Haridwar, Kanpur, and Varanasi have recorded microplastic pollution from industrial discharge and the packaging of religious items and offerings, wherein microplastics like Polyacetylene, Polypropylene, Polyamide, etcetera, were found in abundance at the Assi Ghat in Varanasi and Dohri Ghat in Kanpur.[10] Common pollutants are animal/ human carcasses, heavy metals, suspended solids, phenols, dyes, pesticides, fertilizers, acids, cyanides, etcetera.[11]

In 1992, world leaders and delegates from 178 nations attended the 'Earth Summit' or the United Nations Conference on Environment and Development in Rio de Janeiro.[12] The Rio Declaration requires every human being to meet the needs of the present without comprising the ability of future generations to meet their own needs, i.e. the declaration acknowledges the limited carrying capacity of Earth in the context of the use of natural resources for the benefit of present and future generations, wherein socio-economic development and environmental protection are the "interdependent and mutually reinforcing pillars" of sustainable development.[13]

Current Scenario

The Ganga is subjected to approximately 3,000 MLD of industrial effluents per day, wherein effluents originate from the Pulp & Paper Industries (Uttarakhand), Metal-Works Factories, Distilleries, Tanneries and Sugar Industries (Uttar Pradesh), and Jute & Textile Factories and Tanneries (West Bengal); additionally, the river receives approximately ten million tonnes of chemical fertilizers per year and approximately 21,000 tonnes of chemical pesticides per year.[14]

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[9] VINOD TARE ET AL., RIVER GANGA AT A GLANCE: IDENTIFICATION OF ISSUES AND PRIORITY ACTIONS FOR RESTORATION 6 (IIT Kanpur ed., 2010), https://nmcg.nic.in/writereaddata/fileupload/33_43_001_GEN_DAT_01.pdf.

[10] *Microplastics concentration in Ganga more than any other major world river, finds new study*, DOWN TO EARTH (Jul. 22, 2021), https://www.downtoearth.org.in/news/water/microplastics-concentration-in-ganga-more-than-any-other-major-world-river-finds-new-study-78069.

[11] Jitendra Kumar et al., *Man-Made Impact on Ganga River and Fisheries*, AQUAFIND (n.d.), http://aquafind.com/articles/Man_Made_Impact_On_Ganga_River.php (last visited Oct. 10, 2022).

[12] United Nations, *"The Rio Declaration on Environment and Development" and Introduction to Chapter 7 from Agenda 21 (United Nations Conference on Environment and Development) (1992), "Millennium Development Goals" and "Millennium Declaration" (2002)*, *in* THE SUSTAINABLE DEVELOPMENT READER 79, 80 (Stephen M. Wheeler & Timothy Beatley eds., 2014).

[13] GÜNTHER HANDL, DECLARATION OF THE UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT (STOCKHOLM DECLARATION), 1972 AND THE RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT, 1992 3-4 (United Nations Audiovisual Library of International Law ed., 2012).

[14] S. K. Tandon & R. Sinha, *The Ganga River: A Summary View of a Large River System of the Indian Sub-Continent*, *in* THE INDIAN RIVERS: SCIENTIFIC AND SOCIO-ECONOMIC ASPECTS 61, 71 (Dhruv S. Singh ed., 2018).

 ISSN: 2456-4605(O)

The river, in Uttar Pradesh, gets plagued with varying concentrations of cadmium, cobalt, chromium, copper, iron, manganese, nickel, lead and zinc, wherein the portion of the river in the Kanpur-Unnao industrial area is subjected to very high levels of cadmium, chromium and selenium from anthropogenic inputs (~90 per cent of the pollutants have an anthropogenic source in relation to the natural background concentrations), high levels of organic carbon, zinc and copper (~50 to 75 per cent), and moderate levels of cobalt, nickel and lead (~25 per cent).[15] Industrial effluents from tanneries in Kanpur alleviate the chromium concentration in the river by 30-fold.[16] In Varanasi, heavy metals like zinc, nickel, chromium, lead and copper are reported in very high concentrations in discharges from sewage treatment plants; additionally, manganese and iron are detectable in the industrial effluents near Varanasi.[17] Researchers suggest that the water contamination is highest at Narora Barrage and Jajmau, Kanpur due to point source discharges from tanneries, wherein Narora Barrage is heavily contaminated with cadmium and copper while Jajmau, Kanpur is heavily contaminated with lead and zinc.[18]

India accounts for approximately 13 per cent of global leather production, wherein India produces about three billion sq. ft. of leather per year from its access to about 20 per cent of the world's cattle; consequently, the labour-intensive industry of 4.42 million people produces 9 per cent of the world's footwear (the second largest producer of leather footwear and garments in the world).[19] According to the Council for Leather Exports, Uttar Pradesh accounts for approximately 31.35 per cent of total exports of leather, leather-based products and leather footwear from India.[20] Some estimates peg the number of tanneries in India to about 1,600, wherein 18 per cent of them are located in Uttar Pradesh (~378 tanneries).[21] Kanpur is the centre for buffalo-based leather in India, whereby the tanneries in the Jajmau area and the town of Unnao house nearly 1,635 functional units, which specialize in sole leather, finished

[15] Dipak Paul, *Research on heavy metal pollution of river Ganga: A review*, 15 ANN. AGRAR. SCI. 278, 280 (2017).
[16] K. R. Beg & S. Ali, *Chemical contaminants and toxicity of Ganga river sediment from up and down stream area at Kanpur*, 4 AM. J. ENVIRON.z SCI. 362, 362-366 (2008).
[17] Paul, *supra* note 20, at 281.
[18] Durgesh N. Goswami & Sharda S. Sanjay, *Determination of heavy metals, viz. cadmium, copper, lead and zinc in the different matrices of the Ganges river from Rishikesh to Allahabad through differential pulse anodic striping voltammetry*, 1(5) INT. J. ADV. RES. CHEM. SCI. 7, 9 (2014).
[19] Seerat Kohli, *Sector: Leather*, INVEST INDIA (Oct. 17, 2022), https://www.investindia.gov.in/sector/leather#:~:text=The%20Leather%20industry%20in%20India,exchange%20earners%20for%20the%20country.
[20] C. R. Chaudhary, *Growth of Leather Industry*, PRESS INFORMATION BUREAU (Dec. 27, 2018, 11:44 AM), https://pib.gov.in/Pressreleaseshare.aspx?PRID=1557419.
[21] Sandeep K. Gupta & Sanjeev Gupta, *Kanpur (India) Leather Cluster - A SWOT analysis*, RESEARCH GATE (Feb. 1, 2014), https://www.researchgate.net/publication/321475030_Kanpur_India_Leather_ Cluster-A_SWOT_analysis.

leather, industrial shoes, saddle-based products and leather garments.[22] About 2,500 MLD[23] industrial waste and effluents are dumped directly into the Middle Zone, particularly between Kannuaj and Varanasi, such that 58 per cent of the grossly polluting industries in the said section are tanneries.[24]

According to the Centre of Science and Environment, 60 per cent of the population residing in the 21 cities along the Ganga dump their untreated sewage and sludge directly into the river, especially near Kanpur, Prayagraj, Varanasi and Patna, where the faecal sludge gets dumped into the waters.[25] An independent survey by the Ministry of Urban Development reveals that approximately 242 drains discharge sewage directly into the Ganga without being treated, wherein 205 of the said drains do not have any screen to prevent the solid waste from flowing freely into the river.[26]

In the Upper Zone city of Haridwar, the Total Coliform (hereinafter referred to as the "**TC**") ranges from 50 to 1,600 (VIP Ghat and Vishnu Ghat), while the Faecal Coliform (hereinafter referred to as the "**FC**") ranges from 2 to 33 (Har Ki Pauri); however, bathing rituals during isolated incidents like the Ardhkumbh pushes the TC to 1,475 (average value, in MPN/100ml, along the river in Haridwar) and the FC to 352.30 (average value in MPN/100ml).[27] It is worth noting that the safe limit for FC is 2,500, wherein the average value of FC (MPN/100ml), in 2021 (January to May), for Uttarakhand, Uttar Pradesh, Bihar and West Bengal is approximately 23.81, 3,823.66, 41,999.69, and 36,960 respectively.[28]

At the heart of Ganga's pollution, there are overburdened and inadequate sewage treatment plants along the river. For example, the capacity of Kanpur's main sewage treatment facility caps at less than three-fourths of the total toxic waste produced in the tanneries; additionally, frequent power outages in the city prevent the treatment plant from working at a desirable

[22] *Id*.
[23] Million of Litres per Day/ MegaLitres per Day.
[24] Ekabal Siddiqui & Jitendra Pandey, *Assessment of heavy metal pollution in water and surface sediment and evaluation of ecological risks associated with sediment contamination in the Ganga River: a basin-scale study*, ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH, Feb. 2019, at 2.
[25] Shobita Dhar, *21 cities in Ganga basin dump 60% of excreta into river: CSE report*, THE TIMES OF INDIA (Nov. 13, 2020), https://timesofindia.indiatimes.com/home/environment/21-cities-in-ganga-basin-dump-60-of-excreta-into-river-cse-report/articleshow/79211328.cms.
[26] Priscilla Jebaraj, *70% towns along Ganga let out garbage directly into the river: study*, THE HINDU (Jan. 12, 2019), https://www.thehindu.com/sci-tech/energy-and-environment/70-towns-along-ganga-let-out-garbage-directly-into-the-river/article25981284.ece.
[27] H. Kulshrestha & S. Sharma, *Impact of mass bathing during Ardhkumbh on water quality status of river Ganga*, 27(2) J. ENVIRON. BIOL. 437, 438 (2006).
[28] Bishweswar Tudu, *Data on Pollution Levels of Ganga and Yamuna Rivers*, PRESS INFORMATION BUREAU (Nov. 25, 2021, 5:47 PM), https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1776180.

 ISSN: 2456-4605(O)

capacity.[29] The multicoloured streams of toxic waste, from blue to black, enter into the river without most of it being properly treated,[30] wherein a significant quantity of the polluted water is taken into the agricultural fields around Kanpur since the farmers have no choice due to the scarcity of irrigation water for agriculture; consequently, the foam-laced water causes stunted growth of the crops.[31] Farming with contaminated water acts as a vector for toxins to enter the food chain. The polluted water has become unfit for the survival and proliferation of fish; consequently, fishing communities are forced into looking at other forms of livelihood due to a staggering decline in fish in the Ganga, wherein some communities in the downstream areas have changed their diet in entirety because the "limited" fishes are laden with toxic metals and tanning oils.[32]

Pollution also comes from non-point sources like religious ceremonies and rituals in Varanasi. The 88 ghats in the city allow people to release the ashes of their dead relative(s) into the Ganga. At Manikarnika Ghat, cremation takes place on grand cremation pyres by members from the lower castes, wherein 100 bodies get cremated at the ghat per day over a 10-hour window.[33] Poor Hindus that cannot afford the cremation charges choose to put the body of their dead relative into the river without being cremated.[34]

The extensive practice of departing the dead in Varanasi has led to an exponential rise in the number of dead bodies in the Ganga. In 2015, 100 terribly decomposed bodies surfaced in the district of Unnao, wherein the bodies were supposedly part of the last rites performed in

[29] Pete Mcbride, *Industry on the Banks:Deep Inside Kanpur's Tanneries*, NATIONAL GEOGRAPHIC (Aug. 6, 2014), https://www.nationalgeographic.com/photography/article/industry-on-the-banks-deep-inside-kanpurs-tanneries.

[30] Owing to less than 20% of the total toxic waste being adequately treated by the Central Processing Unit of Kanpur.

[31] Sean Gallagher, *India: The Toxic Price of Leather*, PULITZER CENTER (Feb. 4, 2014), https://www.bloombergquint.com/business/why-kanpurs-tanneries-are-at-the-centre-of-a-fight-to-save-the-ganga.

[32] Naizam Jaffer, *Tanneries, the Ganges and how WWF is driving change*, MISSION GANGA (n.d.), https://mission-ganga.thewaternetwork.com/article-FfV/tanneries-the-ganges-and-how-wwf-is-driving-change-B4D-9ZlVrQWMDkNQHN-JPQ (last visited Oct. 15, 2022).

[33] Shantanu G, Ray, *In Varanasi, a Lifetime Spent in a World of Death*, THE NEW YORK TIMES (Mar. 16, 2014), https://india.blogs.nytimes.com/2014/03/16/in-varanasi-a-lifetime-spent-in-a-world-of-death/?mcubz=0.

[34] Geeta Pandey, *More than 100 bodies recovered from India's Ganges*, BBC NEWS (Jan. 14, 2015), https://www.bbc.com/news/world-asia-india-30808745.

Varanasi.[35] The dead bodies add to the microplastics in the Ganga due to the non-degradable plastics used to wrap the religious offerings and dead bodies.[36]

Research Objective

For this paper, we are only concerned with the main stem of the Ganga. It is evident from the discussion above that the human settlements, municipal bodies, and industrial establishments located along the Ganga in the Middle Zone contribute significantly to the pollution of the Ganga by way of untreated effluents and domestic sewage. We will focus on the public nuisance and tortuous pollution purported by the Middle Zone (Uttar Pradesh) onto the communities residing in the downstream areas of the Lower Zone (Bihar). The responsibility and liability of the Middle Zone shall be gauged in the light of the Code of Criminal Procedure, 1973 (hereinafter referred to as the "**Code**"), and the principles of the Rio Declaration.

The question about responsibility shall be further treated with the Doctrinal Legal Research Method and the Applied Method so as to rigorously analyse existing legislative statutes in India by way of the Code and the Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as the "**Water Act**").

Analysis

An analysis by CPCB into the status of drains discharging into the Ganga in the post-monsoon period of 2020 yields the results as noted in Table 1. Herein, "**BOD**" stands for Biological Oxygen Demand in the water. The average BOD (mg/L) in discharges from untapped drains[37] in Uttarakhand, Uttar Pradesh, Bihar and West Bengal is approximately 45.76 (entirely domestic sewage), 49.42 (mixed effluents from domestic and industrial sources), 37.90 (mostly domestic sewage) and 56.88 (mixed effluents) respectively.[38] The Water Quality Analysis of River Ganga by the CPCB in 2020 yields the following results, as noted in Table 2.

[35] Mayank Jain, *Why did 100 decomposed bodies float back up in Ganga?* SCROLL (Jan. 15, 2015), https://scroll.in/article/700489/why-did-100-decomposed-bodies-float-back-up-in-ganga.

[36] Unnati Sharma, *High presence of microplastics in Ganga, level of pollution maximum in Varanasi, study says*, THE PRINT (Jul. 22, 2021), https://theprint.in/india/high-presence-of-microplastics-in-ganga-level-of-pollution-maximum-in-varanasi-study-says/700876.

[37] The measurable values are derived from untapped drains discharging directing into the Ganga. This excludes outlets from Sewage Treatment Plants (hereinafter referred to as the "**STP**"). Average BOD is calculated on the basis of individual values of BOD measured from each untapped drain.

[38] CENTRAL POLLUTION CONTROL BOARD, STATUS OF POST-MONSOON 2020 MONITORED DRAINS DISCHARGING INTO RIVER GANGA AND ITS TRIBUTARIES (BANGANGA, RAMGANGA, KALI-EAST, PANDU, ETC.) 1 (2021) https://cpcb.nic.in/ngrba/Identified_drains_postmonsoon-2020.pdf.

 ISSN: 2456-4605(O)

Sr. No	State	No. Of Drains	Total Flow (MLD)	No. Of Tapped Drains	Average BOD (mg/L): **B_1**	No. Of Outlets from STP
1.	Uttarakhand	25	141.13	9	45.76	3
2.	Uttar Pradesh	154	2185.04	47	49.42	2
3.	Bihar	19	609.48	0	37.90	0
4.	West Bengal	56	6627.45	3	56.88	0

Table 1: Status of Drains Discharging into the Ganga[39]

Sr. No	State	No. Of Monitoring Stations	Average BOD (mg/L): **B_2**	Maximum BOD Recorded/ Monitoring Station(s)
1.	Uttarakhand	13	1.25	4/ Rishikesh
2.	Uttar Pradesh	30	2.99	6.5/ Assi Ghat (Varanasi)
3.	Bihar	34	2.41	6.7/ Bhagalpur
4.	West Bengal	14	3.21	7.75/ Tribeni, Near Burning Ghat

Table 2: Water Quality Analysis of River Ganga[40]

Researchers suggest that in the absence of any sources of industrial pollution, the Ganga can self-purify itself, whereby an analysis between 2007 and 2016 shows that the heightened BOD (5.5-9.2 ppm[41]) in Uttar Pradesh reduced to 2.0-2.8 ppm in Bihar.[42] Tables 1 and 2 reveal that Bihar has the lowest number of drains discharging directly into the river; additionally, Bihar has the lowest value of B_1. The untreated effluents from tanneries and other industries cause a sharp increase in BOD in Uttar Pradesh because of the presence of heavy metals, salts, etcetera, in the said effluents. The BOD decreases in Bihar because of a lower pollution load (609.48

[39] *Id.*, 2-17.
[40] CENTRAL POLLUTION CONTROL BOARD, WATER QUALITY DATA OF RIVERS UNDER NATIONAL WATER QUALITY MONITORING PROGRAMME (NWMP) 11-15 (2020) https://cpcb.nic.in/wqm/2020/WQuality_River-Data-2020.pdf.
[41] Parts Per Million.
[42] Ayesha Mariya et al., *The pristine nature of river Ganges: its qualitative deterioration and suggestive restoration strategies*, 191 ENVIRON. MONIT. ASSESS 542, 552-553 (2019).

MLD) than that of Uttar Pradesh (2185.04 MLD), whereby the self-purifying capacity of the Ganga gets rid of the pollutants from Uttar Pradesh whilst decreasing the BOD, as seen in Table 2. The self-purifying property of the Ganga might be attributable to a higher resident population of rich biodiversity (ex: diatoms, bacteriophages, etcetera) and Transparent Exopolymeric Particles in the Ganga, wherein the unique biochemistry is said to promote the removal of nutrients and heavy metals from the river water via sedimentation.[43]

One can conjecture that the said capacity of the Ganga is at play in Bihar. One can ideate that the pollution in Uttar Pradesh is carried forward to Bihar. Although Bihar has no tapped drains, interim measures are already underway on seven of the said drains, including the Rajapur Drain, which had been the most polluting in Bihar, with a discharge of 173.11 MLD, as of 2020.[44] The widespread 'untapped' drains in Uttar Pradesh result in a collective discharge, with a BOD Load (Tonnes Per Day) of 55.59 into the Ganga, as against the BOD Load of 9.09 released by the drains in Bihar.[45]

Between December 2017 and March 2018, the Saprobic Score of the Ganga varied between 3.60 to 5.55 in Uttar Pradesh and 4.64 to 5.25 in Bihar, wherein 'Severe Pollution' was detected at Bridge 2 at Kanpur (0.0), Between Road Rail Bridge Bhruti Near Panki (0.0), and the Bathing Ghat at Varanasi (1.67) in May 2017.[46]

A nuisance becomes an actionable tort if and only if it is associated with a wrongful act that causes loss, damage, annoyance or inconvenience to another individual, whereby nuisance is the unlawful interference with a person's enjoyment of some right(s); consequently, if a particular nuisance affects the reasonable convenience of the public at large (or a class of people), then the nuisance becomes a public nuisance.[47] Section 268 of the Indian Penal Code, 1860 (hereinafter referred to as the "**IPC**") would allow the communities in the Lower Zone, particularly in Bihar, to bring action against municipal authorities and polluting industries (like tanneries) in cities like Kanpur and Varanasi. The municipal authorities in such cities may be primarily guilty of the following actions/ omissions:

[43] *Id.*, 565-566.
[44] CENTRAL POLLUTION CONTROL BOARD, *supra* note 45, at 15.
[45] *Id.*, 14-15.
[46] CENTRAL POLLUTION CONTROL BOARD, BIOLOGICAL WATER QUALITY ASSESSMENT OF THE RIVER GANGA (2017-18) 13-16 (2018) https://cpcb.nic.in/uploads/healthreports/Biological-Water-Quality-Assessment-2018.pdf.
[47] S. K. KAPOOR, LAW OF TORTS & CONSUMER PROTECTION ACT 250-251 (Central Law Agency ed., 8th ed. 2010).

 ISSN: 2456-4605(O)

a. Not setting up adequate and functional STPs to treat domestic discharges and toxic effluents from industrial establishments.
b. Not checking, supervising and vigilantly auditing the operations of the said industries in light of norms and directions prescribed by the Central Government.
c. Not supervising and construing the activities at the ghats in Varanasi in light of legislative statutes and directions prescribed by the Central Government and the CPCB.

The communities in Bihar suffer from a common injury/ annoyance, which is an outcome of the dumping of wastes (with levels of pollutants above the permissible limit) into the Ganga. It is worth noting that the said dumping of wastes amounts to public nuisance due to the following reasons:[48]

i. The unreasonable act of dumping unchecked and untreated sewage and effluents causes injury and annoyance to, and interference with the physical comfort and personal health of every person alike, whether sick or healthy, wherein the communities in Bihar do not suffer because of some particular sensitivity to the said act(s). Any reasonably ordinary person living along the Ganga in Bihar suffers equally because of the heavy metals in the river. The degree, proximity (neighbouring state) and intensity (heavy pollution) of discomfort and inconvenience to an ordinary and reasonable person are such that the interference is substantial.
ii. The dumping of untreated wastes is a continuing wrong and ongoing state of affairs over a time period of many years and not a temporary or isolated act.[49]
iii. It does not matter whether the wastes had been dumped in good faith or bad faith because the act itself causes a legal injury[50] to the said communities towards their fundamental right to the enjoyment of pollution-free water, which is enshrined within their Right of Life under Article 21 of the Constitution of India, 1950.[51]
iv. The pollutants may cause some physical harm to the people and their livelihood (ex: agriculture, etcetera) in Bihar. It is a known fact that the negative externalities imposed by an upstream industry (by way of heavy metal pollution) increase the downstream industries' cost of production (negatively affecting its production).[52]

[48] J. N. PANDEY, LAW OF TORTS WITH CONSUMER PROTECTION ACT AND MOTOR VEHICLES ACT 396-409 (Central Law Publications ed., 8th ed. 2011).
[49] Stone v. Bolton, All ER 237 (1949).
[50] Brandford Corporation v. Pickals, AC 587 (1895).
[51] Subhash Kumar v. State of Bihar & Ors., 1 SCR 5 (1991).
[52] Amitrajeet A. Batabyal & Seung J. Yoo, *A Theoretical Analysis of Costs, Waste Treatment, Pollution in the Ganges, and Leather Production by Tanneries in Kanpur, India* 4-7 (Rochester Institute of Technology, Working Paper No. 114284, 2022).

The tortuous nature of pollution was upheld by Hon'ble Justice S. S. Ahmad, whereby he submitted that pollution is 'a tort committed against the community' as a whole; additionally, the court opined that the powers of the judiciary can be invoked under a writ petition in order to make the polluter not only pay compensation for the restoration of the damaged environment but also pay damages to the victims for the polluting actions of the polluter.[53] The court can ask the polluter to pay exemplary damages so as to act as a deterrent for others.[54] Section 133 of the Code can be invoked to remove any public nuisance at the behest of a conditional order in a summary case by a District Magistrate, Sub-Divisional Magistrate, or any other Executive Magistrate, wherein the said nuisance can get removed from any 'public' place. Under Section 133, the court can desist someone from carrying on the conduct of their trade or occupation, or can remove or regulate the same in such manner as may be directed if the trade or occupation is injurious to the health of the community. The pollution of the Ganga in Uttar Pradesh has been in existence for a long time, wherein the pollution is not emergent, and the non-intervention of the court shall not cause any irreparable and immediate injury to the communities in Bihar. Section 133 cannot be invoked if the nuisance has been in existence for a long time without any change in circumstances.[55] The non-urgency of the issue compels the downstream communities to approach the civil court for an effective remedy.

Section 2, Clause E of the Water Act upholds the pollution of the Ganga by means of sewage effluents (Clause G) discharged from domestic sewerage systems/ open drains, and trade effluents (Clause K) from industries and tanneries of Kanpur. Mass bathing and other religious rituals are associated with careless use of shampoos, soaps, and detergents; additionally, polythene, clothes, food, flowers, leaves, milk, ghee, curd, coins, etcetera, are discarded into the river along with other religious offerings like *diyas*.[56] The solid and liquid substances pollute the Ganga by altering its physical and biochemical properties (ex: BOD, TC, FC, etcetera), which renders the water harmful to public health and safety in the downstream communities. If an industry or STP permits the drainage of any polluting, poisonous or noxious matter into the Ganga, then the same is prohibited in law if the pollutants in the discharge in question do not adhere to standards laid down by the authorities (Section 24).[57]

[53] M. C. Mehta v. Kamal Nath & Ors., W.P.(C) No. 000182/1996 (2000).
[54] *Id*.
[55] Asharfi Lal v. The State, AIR All 215 (1965).
[56] Sanjay Dwivedi et al., *Self-cleansing properties of Ganga during mass ritualistic bathing on Maha-Kumbh*, 192 ENVIRON. MONIT. ASSESS. 221, 222 (2020).
[57] The Water (Prevention and Control of Pollution) Act, 1974, No. 6, Acts of Parliament, 1974, India.

 ISSN: 2456-4605(O)

Principle 16 of the Rio Declaration requires the polluter to bear the cost of pollution by internalising the environmental costs, with due regard to the public interest at hand. The 'Polluter Pays' Principle requires the polluter to compensate the victims and individual sufferers of pollution while bearing the cost of restoring and reversing the environmental degradation, wherein the Supreme Court of India held that the 'Polluter Pays Principle' of sustainable development is part of the environmental law of India.[58] It is worth noting that the said principle places an absolute liability on the polluter to pay till the ecological damage caused by them is restored, wherein a 'one time payment/ compensation' by the polluter may not be enough.[59]

Pollution in the form of heavy metals, inorganic salts, oils, etcetera, from Uttar Pradesh can be the basis for a criminal approach or/ and civil approach by the downstream communities in Bihar owing to the public nuisance suffered by them:

1. Criminal Approach under Section 268 of the IPC.
2. Civil Approach for the tortuous wrong of public nuisance, whereby the polluters in Uttar Pradesh (industries, municipal bodies and civic authorities) are to pay damages to the victims of the pollution for their actions/ omissions regarding pollution.

Conclusion

The decrease in the Average BOD (mg/L) from 2.99 in Uttar Pradesh to 2.41 in Bihar reveals that the self-purifying capacity of the Ganga removes the heavy metals from the water via sedimentation in Bihar (in the absence of any major industrial and domestic sources of pollution). The untreated effluents from tanneries in Kanpur and other industries, along with the widespread religious activities in Varanasi, cause a sharp increase in BOD in Uttar Pradesh. The widespread untapped drains in Uttar Pradesh result in the discharge of a BOD Load (Tonnes Per Day) of 55.59 into the Ganga, as against the BOD Load of 9.09 released by the drains in Bihar. It can be hypothesized that the heavy metals, salts, etcetera, are carried into Bihar from Uttar Pradesh.

The unreasonably high presence of heavy metals and other pollutants due to unchecked dumping of untreated sewage and industrial effluents causes injury and annoyance to and interference with the physical comfort and personal health of the people in the downstream communities. Although the said people cannot invoke Section 133 of the Code due to the non-

[58] Vellore Citizens Welfare Forum v. Union of India & Ors., SC 2715 (1996).
[59] The All India Skin and Hide Tanners & Merchants Association v. The Loss of Ecology (Prevention and Payment of Compensation) Authority & Ors., Writ L.R. 183 (D.B.) (2010).

emergent existence of the pollutants in the Ganga for a long-time, the same people can approach a civil court to seek damages for the tortuous act of public nuisance at the hands of the industries, municipal bodies and civic authorities in the polluting areas of Uttar Pradesh like Kanpur and Varanasi. The 'Polluter Pays Principle' shall be absolutely applied to the wrongdoers for their actions/ omissions, wherein the respective wrongdoer will not only pay damages to the victims in the downstream communities for their respective share in the pollution of the Ganga but also pay the cost of restoring and reversing the environmental degradation of the Ganga in their respective polluted areas.

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INFRINGEMENT OF HUMAN RIGHTS OF THE SCHEDULE TRIBES IN INDIA.

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Abstract

This article is about the human rights violation of the schedule tribes or the "indigenous people" of India. Moreover, in this article we have discussed regarding the increase in crime rate of the Tribals. The historical and theoretical aspects of the Tribals is brought into discussion for analytical study and then legislative provisions for them is discussed so that if possible new amendments could be considered. This article lays emphasis on restoration of rights of the Scheduled tribes by effective legislative, administrative and judicial mechanism so that the human rights of these people is not infringed and they can live their life in a dignified way with their heads held high.

Keywords

Atrocities, Schedule tribes, crime rate, indigenous people, violation

Research Methodology

This article has followed the descriptive analytical legal research, which is descriptive and qualitative style. This article has also adopted the data analytical method for productive conclusion of statements. This article aims to study the atrocities faced by the schedule tribes which is a gross violation of a human right also and how we can prevent it by strengthening it with analytical legislative support.

Introduction

Human Rights are those rights which is inherited by an individual through the nature and not by any law of the land, the law of the country just makes sure it's protected by implementing provision which will safeguard those natural human rights. The human rights of the tribal community have been constantly under threat and has been facing gross violation since centuries.

The Human rights of the Tribals should be a big concern for the people in India. These rights have been constantly emanated from the Universal Declaration on Human Rights of 1948 and is constantly being developed and upgraded through political contestation and various internal

debates and discussions to further include a wide range of rights which are fundamental to live a dignified human life.

As per the reports of United Nations Human Rights Council, March 2022, India has been a failure of various treaty obligations which concerns the protection and Integration of Indigenous and other tribal and semi-tribal people in Independent countries. The report also submits that the security forces in Indian by using their special powers given by the Armed Force Special Powers Act have infringed the rights of the tribal people in the Central and north east India due to the rumors of them being associated with insurgent groups, as a result of which mass killings and other violence have committed against those indigenous tribes. These people are often ill-treated, physically attacked, arbitrarily detained, killed yet the government of India has not taken appropriate steps to protect the human rights of these tribal community. These acts are a gross violation of article 7, 21, 24 and 30 of UNDRIP (United Nations Declaration on the Rights of Indigenous People), article 3, 5, 9, 10, 13, 20 and 25 of UDHR (Universal Declaration of Human Rights), Article 1 of International Convention for the protection of all persons from enforced Disappearance and Article 4,6,7,9,10 and 15 of ICCPR (International Covenant on Civil and Political Rights).[1]

The Indian Constitution have guaranteed various basic rights to the and freedom to the Tribals of the country but still they are unprotected in this modern era of Civilization. Even after possessing various fundamental rights and having Directive Principle of state policy, the fundamental duties and effective implementation of Judicial Mechanism for the protection of the human rights of the Tribals underlines the importance of constitutional culture of India. This can be witnesses due to increase in crime rate of the Tribals in India.

Historical Background and Evolution of Schedule Tribe

The Republic of India has approximately 645 district tribal community (as per 2011 census report) and our law of the land i.e. the constitution of India recognise these tribal communities as 'Schedule Tribes' or Primitive Tribal Group[2]. The tribal of India used to live in the forest hills, natural isolated regions and accordingly their names would be kept based on their natural habitat. Adivasis i.e. primitive people are the commonly used term for schedule tribe and Anushchit janjati i.e. Schedule tribe is the constitutional name covering all the tribes present in

[1] United Nations Human Rights Council, (March 2022) Observations on the State of Indigenous Human Rights in India, https://www.upr-info.org/sites/default/files/country-document/2022-10/JS11_UPR41_IND_E_Main.pdf

[2] Sagar, (Mar. 30, 2018), The Most Vulnerable Primitive Tribal Groups in India, Retrieved from https://geographyandyou.com/vulnerable-primitive-tribal-groups-india/

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India. Tribals of India forms an Integral part of the Indian Civilisation and have also contributed various elements in the ancient civilisation.

They were the earliest among the present inhabitants of India[3].

When the Aryans immigrants entered our country they also found a land of non-Aryans people whom they call "Dasyus" which denotes the people other than the Aryans. The Dasyus of the Vedic antiquity were mainly of two types i.e. the Kolarians and the Dravidians. Manu Sanhits suggested that the tribes which lost the sacred rites or were out casted from the recognized caste and sub-castes are the Dasyus. During the Hindu period within the history of India about two thousand years from 800-600 B.C., only few scattered reference can be found of the Tribals of India, therefore their history can't be traced prominently. The internal movements of the tribal people within India empowers and speak their history in a manner which can be justified but at same time the tribal population of India, generally can't be considered as indigenous and native people belonging to their present tracts. And all these ambiguity is because the tribes inhabiting middle India and adjoining western Indian are in abundance and constitutes four-fifth of the tribal population of the overall India.

The inclusion of community as a scheduled tribe is considered as an ongoing process. The requisite characteristics of these tribal community can be traced by their Primitive traits, geographical isolation, distinct culture, shy of contact with community at large and last but the least economic backwardness. It's considered that tribal communities live in various ecological and geo-climatic conditions ranging from plain surfaces and humungous dense forests to hills and inaccessible areas where there could not be possible human interaction with other communities. They altogether are at different stages of social, economic and educational development in the recent era of progress.[4] Although few tribal communities have adopted a conventional path of life but at the other end of the whole spectrum there also exist certain Scheduled tribes who may be quite less in number and known as the Particularly Vulnerable Tribal Groups i.e. (PVTG)[5], and they are specifically characterised by pre-agricultural level of

[3] Tripathi, Dr. Rahul, 2018, Historical Background and Development Of Reservation In India: An Analysis, *Journal Of Humanities And Social Science, Vol. 23*, Issue 1, PP 09-13, Retrieved from https://www.academia.edu/36820313/Historical_Background_and_Development_Of_Reservation_In_India_An_Analysis

[4] Sahani, Ramesh, 2013, Particularly Vulnerable Tribal Groups in India: An Overview, *Journal of the Anthropological Survey of India, Vol. 62*, Issue 2, PP 851-865, Retrieved from https://www.researchgate.net/publication/262012652_Particularly_Vulnerable_Tribal_Groups_in_India_An_Overview

[5] Debasish Bhattacharjee, (Aug.28, 2018) Indian Aboriginal: Historical background of the Tribals in India. Retrieved from https://anthropologyglobal.wordpress.com/2018/08/28/indian-aboriginal-historical-background-of-the-tribals-in-india/

technology, they are having stagnant population, extreme low literacy and last subsistence level of economy.

Tribals were exposed to various problems i.e. poverty, physical and mental exploitation, existence of economic and technological backwardness, even exploited by socio-cultural handicaps which further degenerated their social and economic status[6]. There were even problems of their assimilation with non-tribal population due to which they always remain hesitant of grabbing their opportunity in this recent era of evolution. Thus all these obstacles in the path of the Scheduled tribes contributed to the pauperisation of the tribal people in the past and present. Hinduisation was also one of the major contributor who made Tribals in debt and exploited them according to their need, forced them to spend Hindu ways of life and rituals, as a result of which Tribals also occupied a very low rank in the Hindu society when they were forced to copy Hinduism[7].

Theoretical Perspective on Crime against the Schedule Tribes;

In our society people have been subjected to violent and discriminatory attitude towards tribals from a long time and that attitude gets passed on to new generations creating a cycle of violence.

Crimes against tribals may seem as a normal crime but there is a crucial difference and that is the intention. These crimes are a result of violent behavior towards the members of any tribe in order to discriminate and harm them. An individual that is a victim to such a crime only suffers it as he/she is a member of a certain tribe. Hence it is not only related to law and order but also to social injustices.

Adivasi's are the people that live separately with their tribes, aloof from the mainstream society. The cause of their exclusion from the society can be geography, difference in social structure and practices and primordial agricultural practices. Even though the Indian Constitution has separate reservation provisions for members of these Scheduled Tribes, upper class people continue to misuse their power to force these people to follow the ancient prejudiced form of social stratification. The attacks on these people most times are to send a message to the entire group and to punish and intimidate members who fight for their rights.

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[6] Kumar, V, 2018, Recalibrations of the Tribal's Socio, Economic and Political Status in Tanjavur: An Explorative Study, *International Journal of Research and Innovation in Social Science, Vol. 2*, Issue 4, Retrieved from https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-2-issue-4/06-11.pdf

[7] M. Ahiraj, (Mar. 05, 2015), Tribals continue to be exploited, Retrieved from https://www.thehindu.com/news/national/karnataka/tribals-continue-to-be-exploited/article7030196.ece

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Violence against tribals has been present for a long time and it is the historically disadvantaged tribals that face violence in the hands of the upper class.

Crime Head-wise Analysis of atrocities/crimes against Scheduled Tribes

Murder

A total of 122 cases of murder were reported in the country during the year 2013 which embarks an increase of -21.8% in a year, whereas 123 cases reported in the year 2016 as per the 2016 National Crime Records Bureau[8].

Hurt

A total of 930 cases of hurt were reported in the country during the year 2013 which embarks an increase of 14% in a year, whereas 139 cases reported in the year 2016 as per the 2016 National Crime Records Bureau[9].

Rape

Well, a total of 847 cases of rape of women who belongs to Schedule castes were reported in the country during the year 2013 whereas 917 cases were reported in the year 2016 as per the 2016 National Crime Records Bureau[10].

Kidnapping & Abduction

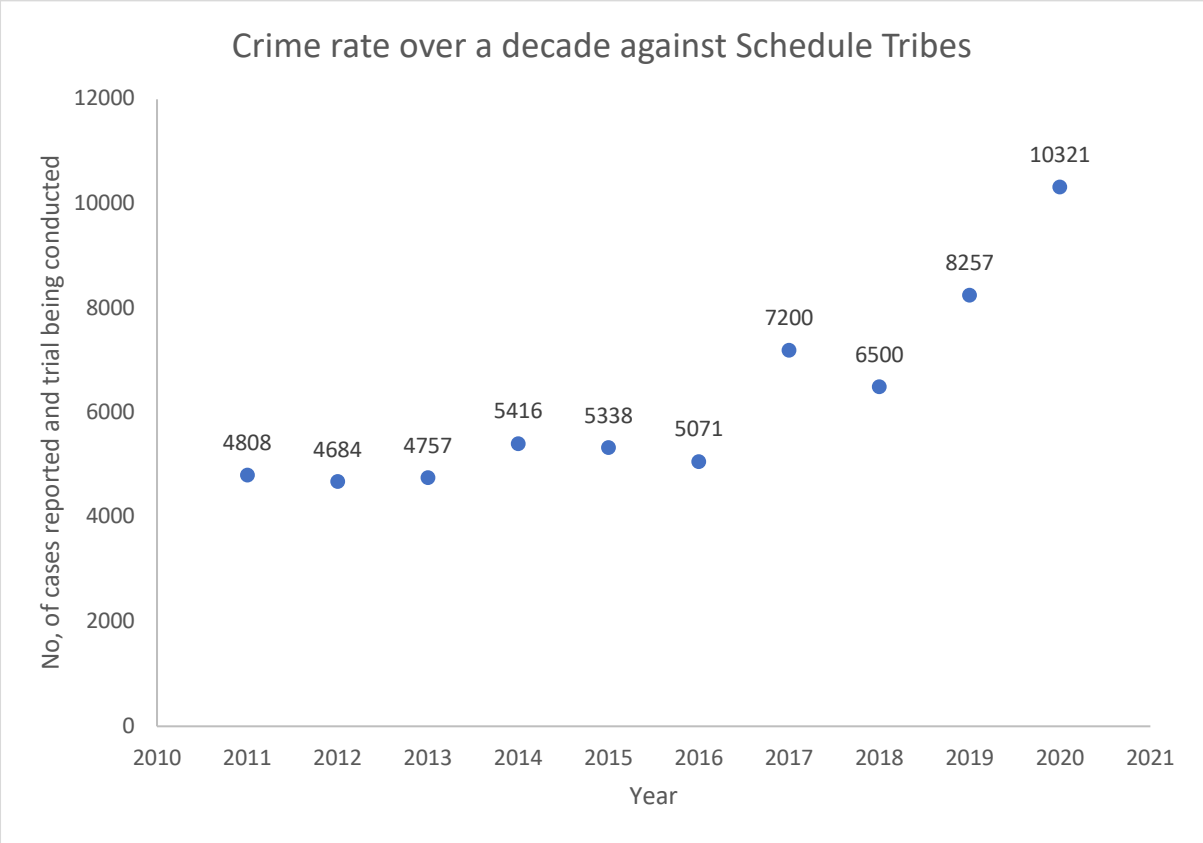
In total 130 cases of Kidnapping and abduction of persons belonging to Schedule castes were reported during the year, 2013 whereas 128 cases were reported in the year 2016 as per the 2016 National Crime Records Bureau[11].

Dacoity

[8] National Crime Records Bureau, (2020, February 28), Atrocities against Schedule tribe, https://ncrb.gov.in/en/crime-india
[9] National Crime Records Bureau, (2020, February 28), Atrocities against Schedule tribe, https://ncrb.gov.in/en/crime-india
[10] National Crime Records Bureau, (2020, February 28), Atrocities against Schedule tribe, https://ncrb.gov.in/en/crime-india
[11] National Crime Records Bureau, (2020, February 28), Atrocities against Schedule tribe, https://ncrb.gov.in/en/crime-india

In total 8 cases of Dacoity were reported during the year, 2013 whereas 9 cases were reported in the year 2016 as per the 2016 National Crime Records Bureau[12].

Graphical Representation of the crime trends against the Schedule tribes over the decade are as follows;[13]



Indian Constitution acting as a guardian of the Schedule Tribe

The framers of the Indian Constitution have framed laws to protect the Tribals of India, so that human rights and legal rights of those indigenous people are not violated. If the government of India efficiently start implementing these laws, then the crime rates as well as the oppression of the Tribals can be controlled. An effective administrative policy and its implementation can also improve the situation and would help the Tribals to restore their human rights. We have a very pioneering constitution in India. In 1950 itself it gave equal rights to all citizens but it also

[12] National Crime Records Bureau, (2020, February 28), Atrocities against Schedule tribe, https://ncrb.gov.in/en/crime-india

[13] National commission for scheduled tribes, (2020, February 28), Reported Cases of atrocities against Scheduled tribes, https://ncst.nic.in/content/crime-against-scheduled-tribes

 ISSN: 2456-4605(O)

gave special protection to the members of STs who were deprived of their land and took strict action for its implementation and also made various provisions to safeguard their rights. So, we have a constitution which was pioneering in terms of giving rights to everyone. We also created specialized regimes of rights for particular groups. And the scheduled tribes were one of them. The scheduled castes were another group within that. But we find that despite having so much protection and schemes these communities are still unsafe and poor.

The scheduled tribes are one among many groups that have both individual and group representation in the federal structure of constitutional. Firstly, they have separately reserved electoral constituencies in Parliament and state assemblies in tribal dominated areas. The only other group which have this privilege are scheduled castes. They also have proportionate population reservations in educational institutions and government jobs. So the proportion of the scheduled tribes in the population at the time of the drafting of the constitution was seven percent and this protection is also available to the scheduled castes whose population was fifteen percent. So, that's how their seats have been reserved. STs are the only groups who got special protection for right of lands and the areas which are dominated by tribes mentioned in fifth and sixth schedule.

Article 338 A deals with The National Commission for ST. It has the authority to investigate and monitor issues related to safeguards provided to ST under the Constitution or other law or government Instructions. The Commission also investigates specific complaints related to ST's rights and guarantees, participates and advises on the planning process related to ST's socio-economic development, and evaluate the progresses of ST's development in Union and states.

The Tribal Sub-plan (TSP) Strategy is an initiative of the Government of India aimed at the rapid socio-economic development of tribal people. Funding provided under a state tribal sub-plan must be at least equal to each state's ST population or UT. Similarly, central ministries need to allocate funds from budgets to tribal sub-plans. The National Commission of the Scheduled Tribe is obliged to participate and advise on ST's socio-economic development planning process and assess the progress of development between the Union and each state.

Many tribal and forest inhabitants were dependent on forest lands for generations. Forests are the root and source of their identity, customs and livelihood. However, issue of community access and rights over natural resources had always been contentious. Before Independence, these lands were called lands of British. And it was declared that these forests will be reserved by the government. This declaration process led to the extinguishment of traditional rights of forest dwelling communities, tribal as well as non-tribal. After Independence, the second phase of extension of government control over the forest begins. This started with the setting up of a

network of protected areas which further eroded rights of these forest dwelling communities. So we see that a lot of historical injustice was done through these forest dwelling communities. In India, maximum tribal population and many other forest holders get their livelihood or source of livelihood mainly from the forest resources and the proper and effective execution of tribal and forest landholders over the resources of the forest. It empowers the scheduled tribes to recognize the community rights as well as their individual rights over the resources of the forests.

The first and the major issue is the absence of proper survey and the settlement and the land record etc. So, without proper survey or without proper record of settlement or the land records it is difficult to assign customary rights of tribal over their forest land. So, in case of tribal most of the tribal do not have enough required documentary evidences in order to possess the forest land and they are considered as encroachers in the absence of required documentary evidence. This is the major threat to their existence or livelihood and the claim on the forest resources and in this regard the state governments has not taken any systematic effort or initiatives and according to the data till September 2018, around 4 million claims were filed and out of this around 2 million claims were rejected on the ground that they do not possess any required documentary evidence in order to claim their rights over the forest.

There are various reasons for the implementation i.e. There is lack of resources and it is the result of lack of the political commitment in order to implement the FRA. The process is that the Gram Sabha will file the claim with the bureaucracy at the district level or with the sub-district level. So it is the duty and responsibility of bureaucracy in order to implement the decisions and to consider the claims filed by the Gram Sabha. So, the non-functioning or the poor functioning of the bureaucracy also impacts the implementation of the forest right act. Various policies and programs are initiated by the government and this can also impact the implementation of the FRA. Some examples like the environmental ministry had come up with the guideline which said that forty percent of the degraded foresting the country should be leased to private companies and this leasing should be for afforestation. So, these guidelines or policies and programs of the government will also impact the implementation of the FRA.

Recommendations which should be taken into consideration.

- The FRA should be executed in its true spirit along with the cooperation and coordination of the government.
- Secondly, the Gram Sabha should also be involved in the implementative process.
- Another reason is the left wing extremism affected areas. So, if this act of 2006 is

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implemented in its true sense, this will help in building a relationship or a trust between the government and forest dwellers in that area. So this will reduce the land conflict, Naxalism, under-development and as a result of all this, there will be a reduction in the right of left wing extremism.

- There should also be use of modern technology and mapping and the forest administration should be strengthened and they should be willing to provide service to the gram Sabha for the proper implementation of the FRAs.

The bill for The Land Acquisition was implemented as act in 2013 was passed to protect the interests of STs and its main motive was to make sure that there should be transparency in the whole procedure of the possession of lands with minimal disruption to landowners and affected people and families and give fair and equitable indemnification to affected households.
The bill of 2013 was passed to remove manual scavenging as occupation. Its objective was to remove all these policies which employed the people as manual scavengers just because they belong to lower castes. It prohibits all construction and maintenance of unsanitary toilets and hiring of people to manually or dangerously clean sewers and septic tanks. The plan aims to upgrade the existing sewerage system to cover non-sewn areas and establishment of manure and sewage management system for mechanical cleaning of septic tanks, transportation and treatment of manure sludge. Equip the community and install a hygiene unit with an emergency phone number.

Conclusion

The scheduled tribes always remain far from Indian society which made them prone to furthermore isolation. However, people are still combating for their rights so that they could live a proper life. To protect the tribal, Forests rights act was passed which preserved their rights and in later years this act was implemented properly. A special National commission was made for the scheduled tribes for their educational and economic development. And for their funding, the tribal sub-plan strategy was also initiated. Different state got their special provisions for tribal. Land Acquisition bill was passed for the transparency of the implementation of all provisions. And lastly a bill was passed which abolished manual scavenging. The recommendations provided by the United Nations Human Rights Council, Report in March 2022 would upgrade the condition of schedule tribes of the country.

Transformative constitutionalism is an approach to map the human rights of the schedule tribes which will frame the development of the status of these people and would help in delivering

justice to them. However, on account of the aforementioned discussion, I would like to offer some recommendations which might help in preventing the violation of human rights of the tribal people. These are i) Setting up of special tribunals who would be accountable for the cases registered in view of the scheduled tribes which would help in disposing speedy delivery of justice and will also help the people who are victimized to speak against the wrong committed against them. ii) Awareness should be spread regarding preserving the rights of the tribal people, moreover the tribal people should also be made aware regarding their social, political and legal rights. iii) There should be timely amendments with regard to the legislative provisions based on the annual crime data reports and incidents reported. iv) Strict administrative measures should be undertaken by the concerned government authorities so that the effective implementation of the various legislative provisions could be carried out.

We would like to conclude by stating that human rights of any individual should not be put into stake by any sort of discrimination prevailing in the country. With the evolution of technology humans have adapted themselves to use technology efficiently, in the same way people should also evolve their mental capabilities to accept the scheduled tribes as normal human being. The tribal people have contributed largely in art and cultural diversity, so their efforts should be recognized and should be treated as a gift to mankind. An inhuman treatment towards any tribal should be considered a crime against the whole society whose cognizance should be taken by the courts and the government, thereby delivering justice.

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ACCESS TO GREEN JUSTICE: NEEDS OF THE HOUR

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Abstract

A healthy environment is necessary for the full enjoyment of human life. Access to green justice is need for every one's for good health, development, hygienic environment and sustainability of natural resource which are highly essential for present as well as future generations. This mother earth fulfils our basic needs, where we care for our intellectual, physical, social and economic establishment. Nobody from the outer space will to solve our problem and provide us green justice i.e. Protection, preservation and fulfil the basic needs. It is the duty of every human being to take care of our mother earth and think about the safety and progress of the present and future generations. In the national and international level every state holders makes such legislation for protection and preservation of environment. The nature of law is enforceable, which regulates the human acts, who have taken core responsible to protect the environment Human beings are the main resources of every state who utilized other Natural resources for his welfare and progress of the society without following precautionary measures and exploit the natural resources. These types of attitudes reflected on Environment which creates a major global problem. Public welfare Institutions takes such steps towards the protection of human health, welfare and social interest, which can be possible by a well surrounding. Time to time the judiciary gives such direction to the state to protect the plants, animals, birds and other elements of the environment which are highly essential for human existence. The Researchers try to approach in this article how the protection of environment is every one's primary duty of this earth and also it is primary duty of the national and International state holders to takes such welfare majors prepare and planning to provide a hygienic and progressive environment for present and future Generation.

Keywords: Healthy Environment, Human Health, Human Welfare, Indian Judiciary, Indian Laws

"Wealth is not the money we make; rather it is the health of environment around us."

Introduction:

A healthy environment is necessary for the full enjoyment of human life. The protection and improvement of human environment is a global issue which affects the well-being of people and economic development throughout the world. The interdependence between human life and environment has become an unavoidable truth. The theme for 2018 was "Beat plastic pollution which was a call to action for all of us to come together to combat one of the greatest environmental challenges of the 21st Century. Changes in natural resources base due to human activities has taken place more rapidly in past 50 years causing continuous deterioration of Environment.[1]

From Stone Age to modern era man has come a long way. In this per-suit for comforts of life he ignores the threat of green violation and environmental degradation. Human activities are causing Green House gases to accumulate in the atmosphere. Global warming, Ozone Depletion and Acid rain etc are the main concern of the Hours. The ecosystem is under a Threat that is never faced before. This article approaches the Journey to judgement in the administration of access to Green Justice. Nature and mankind are an in separable part of life. There are unlimited forms of life on Earths. Man is one among the many species competing with all other for survivals. The Earth started to undergo deadly climate change. The world's climate is changing and will continued change into the coming century. Based on a large body of scientific peer review research "Global annually averaged surface air temperature has increased about 1.8 Fahrenheit over the last 115 Years.[2]

From time immemorial nature has bestowed living beings with well-balanced natural ecosystem on this green living planet. But at the same time our planet is facing changes vis-à-vis imbalances in its ecological components owing to the mismanaged exploitation of natural resources by the mankind itself. Hence it is the need of the hour that we strike a balance between them as because humanity needs both.

Scientific innovations and industrial advancements have taken the human civilization to such a level that not only has adverse imbalances vis-à-vis threatening the natural and ecological equilibrium but at the same time poses the risks of the planet earth like Climate change, Acid rains, Global warming, Ozone depletion and Greenhouse effect etc.[3]

[1] The Hindu, Jan26, 2022, P-7
[2] Anbhumani Ramadoss "A Climate Emergency", The Hindu, 27.9.2019, P-9
[3] Easwaran Narassimhan "Towards Low Emissions Growth", The Hindu 26.1.2022, P-7

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The present paper attempts to analyze the issues of Climate Hazards and for improvement of global based greening solution to provide Climate Justice by setting up a strong Climate Law.

A few generations from now, our descendants may not see the animals and plants which we now regard as common place. Nearly 500 species have become extinct in just the last century. We are depleting 25% more natural resources than the planet can sustain right now. Mankind is teetering dangerously to the principle of extinction. Industries, Vehicles, burning of fossil fuels, thermo power plants and large scale rearing of cattle are emitting heat-trapping the sun's heat and increasing the earth's temperature. The Climate Crisis is code red for humanity. As because temperature everywhere is reaching new highs, biodiversity is reaching new lows, oceans are warming and the earth is acidifying and choking with plastic waste. Increasing temperatures will make vast stretches of our planet dead zones for humanity by this century's end. The Lancet Journal just described climate change as the "defining narrative of human health" in the years to come – a crisis defined by widespread hunger, respiratory illness, and deadly disasters and infectious disease outbreaks.

Despite these alarm bells, we only see nothing new actins by different countries for climate change. No doubt the recent new announcement COP26 for climate action is welcome. That is our world is on track for calamities global temperature rises well above 2°C. This is a far cry from 1.5°C target to which the world agreed under the Paris Agreement – a target that science tells us is the only sustainable pathway for our world. This target is achievable if we can reduce global emissions by 45% compared to 2010 levels this decade Human health and Environment Safety, both are important and therefore there is an imperative need for Promoting Scientific use of Environment Policy to access to Green justice.

Journey to Justice:

In society in which we live today is a global risk society. As we know that more than 500 International and National environmental agreements have been developed conference on the human environment in Stockholm in1972 to improve the greening concept in the greening concept in the global arena. Similarly climate change was placed at the Centre of Global Diplomacy in the 23rd Annual UN Climate Conference (COP 23) Meeting held in Born, Germany in 2017. The overall outcome of the COP23 Conference was however a balanced one for developed and developing countries including India. Climate change is the defining human development challenge for the 21st Century. As we know that World Climate is changing and will continue to change into the coming century. The risks associated with the changes are real

but highly uncertain, which affects mainly the livelihood of rural population in developing countries.

United Nations Framework Convention on Climate Change (UNFCCC) is one of the basic legal documents for adaption of climate change. The UNFCCC is one of the three Conventions adapted at the "Rio Earth Summit" in 1992. Its Sister Rio Conventions are the UN Convention on Biological Diversity (CBD) and the Convention to Combat Desertification (CCD). Beside these there is Kyoto Protocol, which exclusively deals with Climate Change issues. The Kyoto Protocol was adapted in Kyoto, Japan on 11th December 1997. But due to a complex ratification process, it came into force on 16th February 2005. Its main objective is to design and strengthen the Protocol environmental integrity, support the carbon market credibility and ensuring a strong Green Justice.

Recently there are efforts taken through Conference of Parties (COP). As we know COP is the Supreme decision making body of the UNFCC. A key task for the COP is review the national communications and emission inventories submitted by the parties. The first COP meeting was held in Berlin, Germany in 1995. Only question surviving before us at present is how to deal with it before it sets catastrophic by the end of this Century? Because according to the research of the Intergovernmental Penal on Climate Change (IPCC) a temperature increase over 2 C would lead a serious consequence, such as a greater frequency of extreme climate change. In fact we are living as if we had 1.5 planets or double planets. As a whole climate change hurts innocent people and their livelihood. The climate change conference in Warsaw, Poland in 2013 and Lima, Peru in 2014 enabled essential progress towards COP21 in Paris 2015 to reducing greenhouse gas emissions. Similarly the Intended Nationally Determined Contributions (INDCs) was introduced at COP19, in Warsaw, Poland in 2013 to agree for a new International agreement to outline the post 2020 climate action. This was an agreement to communicate internationally that what are steps they will take to address climate change in their own countries by taking into their domestic circumstances capabilities.

Similarly Common but Differtiantial Responsbility (CBDR) was formalized in International Law at the 1992 UN Conference on Environmental and Development (UNCED) in Rio de Janeiro. That means the developed countries, which had been able to develop for longer times unlimited for longer times unimpeded by environmental restrictions now need to take a greater share of responsibility.

Indian Contribution to the Climate Change Negotiations

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From the era of ancient India has a long history and tradition of harmonious co-existence between man and nature. India initially develops a strict "Polluter Pays" concept without a willingness to accommodate bracket principles. India's commitment is to:

i. Restriction in emission intensity
ii. Emission per unit at GDP
iii. An increase in forest cover
iv. A greater role for renewable energy in Power generation.

Current Laws in India

Our existing laws are not adequate to deal with climate change. India has the Environmental Protection Act-1986, the Air Prevention and Control of pollution Act-1981, the Water Prevention and Control of pollution Act-1974. But now Climate Change is not exactly within air and water that means what are the laws which would cover the impact of a cyclone to reduce future climate impact? There is also no strong laws ready to tackle environmental violations that is Green Crime which is now a global issues. The Environmental Protection Act, 1986 is grossly inadequate to deal with violations of Climates as because Clause 24 of the Act, effect of other laws like, CrPC 1973. This makes the EPA subordinates to every other laws.

Further, there is a need to integrate Climate action-adoption and mitigation and monitor process. In addition to comprehensive climate action technological i.e. changing energy sources or carbon intensity we have to also adopt nature based i.e. emphasizing restoration of ecosystem, reducing natural hazards and increasing carbon sinks.

In this context India has also planning to adopt in future the "Panchamrit solution" has announced at UN Climate Change Conference (COP26, from Oct 31st to Nov 12th, 2021) at Glasgow, Scotland. This solution's main aim is to

i. Reducing fossil fuel dependence and carbon intensity (i.e. to reduce one billion tonnes of projected carbon emissions by 2030).
ii. To ramping up the renewable energy share to 50% by 2030.

Hence, Glasgow Conference (COP26) is important as it will call for practical implementation of the 2015 Paris agreement by setting rules. This is why it is right for India to mull setting up

a Climate Law to provide true sense climate Justice, new carbon space and environmental protection.[4]

It is also right time for India to create an 'Environmental Commission' having quasi-judicial powers of civil courts to ensure lower energy pathways that addressed to minimize climate change[5]. India has taken number of efforts to retain its position in the top 10 best performing countries for the third year in a row in the largest global climate change performance index (CCPI) released by Germanwatch on the guidelines of the COP26 despite of pandemic difficulties. It has also stated that India will achieve net zero emission latest by 2070 and by 2030 India will ensure 50% of its energy will be sourced from renewable energy sources. Similarly India has also reduce its carbon emission until 2030 by a billion tonnes. India has also reduce its emission intensity per unit of GDP by less than 45% to provide Climate Justice to the people of India. The concerns of climate change have been taken as one of the most pressing environmental concerns by the Supreme Court of India and various High Courts. In fact Supreme Court of India declared clean water, air and soil a fundamental right of the people of India. It shaped environmental justice when the industrialization process resulted in poisoning the ground water of village. In Narmada Bachao Andolan,[6] the Supreme Court dealt with the development versus environmental problem in the context of sustainable development. The Supreme Court in Karnataka Industrial Areas Development Board vs. Sri C. Kenchappa and Others[7] while ordering authorities to properly consider the adverse environmental impact of development before acquisition of lands for development and the impacts of climate change and Ozone Layer depletion. In Reliance Natural Resources Limited vs. Reliance Industries Limited, the court observed that the low carbon content in natural gas, relative to other fossil fuels implies that it use may help in combating global warming problems.[8]

Task before us

[4] D. Raghunandan, "The lowdown on India's Glasgow announcement", The Hindu 12.112021, P-6.
[5] Why the Underdogs Came Out Ahead: An Analysis of the Supreme Court's Environmental Judgments, 1980-2010, Economic and Political Weekly, January, 25, 2014, Vol.XLIXNo.4.
[6] Narmada Bachao Andolan, October 18, 2000

[7] Karrnataka Industrial Areas Development Board vs. Sri C. Kenchappa and Others, (2006) 6 SCC 371

[8] Indian Council for Environmental Legal Action vs. Union of India (1996) 3 SCC 212

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Recent decarbonisation modelling studies point to a significant role for battery, green hydrogen, carbon capture and storage technologies to decarbonise India's transport and industry sectors. However India's R&D investments in these emerging green technologies are not existent the introduction linked incentives under "Aatmanirbhar Bharat" are a step in the right direction for localising clean energy manufacturing activities.

Of course India's new target to develop a new climate oriented policies are as follows:

i. Reducing Emissions per unit of GDP by 45% in 2030 relative to 2005 levels.
ii. By letting absolute emissions by one billion tonnes by 2030 levels.
iii. 500(GW) (1Giga Watt=1000 Mega Watts) of non-fossil fuel installed power generation capacity by 2030.
iv. 50% electricity generation from renewable sources by 2030.
v. Net Zero emission by 2070.

1. A Commission on green law could be set up with the power and authority to issue directions and oversee implementation of plans and programmes of Green Justice. The Commission could have quasi-judicial powers with powers of a Civil Court to ensure that directions are followed in letter and spirit.
2. A system which is need for Accountability at short term, medium term, long term, levels as we face hazards for implementation of green justice.
3. In spite of the role of Judiciary an interplay initiatives among public spirited citizens, environmental groups and lawyers are necessary to the evolution of environmental jurisprudence principle in India to access to Green Justice.
4. A green Industrialization strategy is necessary that combines laws, policy instruments and implementing institutions to steer its decentralised economic activities to become environmental friendly and resilient.
5. A market steering approach rather than hands off approach would encourage private sector investments in Green technologies which needed to industrialise under climate constraints.

Initiations to Combat to Green Violation

- Several initiations have been implementing to create awareness about climate change. i.e. how to mitigate and adopt to it.

- In 1991 S.C. directed the Central Government and all State Government to provide compulsory Environmental Education to all Schools and Colleges in the Case of M.C. Mehta vs. UOI.
- Climate Change has the potential to disrupt and reshape lives.
- There are several alarming predictions about its impact and one of them is the UN Sustainable Goals Report-2018 that is Climate Change is among the key factors in rising hunger and human displacement.
- The WHO estimates that Climate Change will cause an additional 2,50,000 deaths per year between 2030-2050, due to malnutrition, malaria, diarrhoea & heat stress.
- These Scenarios raise Questions that mainly to Vulnerable groups that where they know the manifestation of climate change and whether they aware that it could potentially affect the health and livelihood of present and future generations?

Challenges Ahead

- One of the major challenges that the inconsistency of the Judiciary in dealing with environmental cases.
- Environmental groups and NGOs find it difficult to get involved in environmental cases in a consistent manner for various Practical reasons.
- Enactment of a Law, but tolerating its infringement is worse than not enacting a law at all. Continued of tolerance of such violations of law not only renders legal provisions nugatory but such tolerance by the enforcement authorities encourages lawlessness and adoption which cannot tolerated in any civilised society.

Measures Needed

To stopped Municipal Social Waste burning and to the waste Measurement System to improve air quality in a particular town or city.

- To ensure groundwater Conservation.
- There must be a strong coordination in between Judiciary and elected represented to create an awareness among the people
- Increased taxation on sale of private vehicles.
- To ensure a law this could cover and reduce future climate valuation and Cyclone impact.
- The Natural resources management must be inaccessibility among rural communities.

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- When free access to information on an issue is not made available to the committees, they begin to rely on external agencies for solving their local problems.
- One stop centre must be launched for natural resources management to build close cooperation among departmental democratise access to knowledge and continue with research and development on every aspect of natural resource management.

One must be looked out that the air pollution reduction and steep climate change mitigation are not complementary goals but require independent efforts over the short and medium term One upon a time the American Philosopher Hanery David thorium rightly Stated that "The tree has also it's our heart". It has also its own life. But unfortunate that slowly but surely same of the rare trees are disappearing from our Earth. Hence it is a right time for us to think over it, elsewhere we the worst sufferer in the future. Access to Green justice is an inevitable requirement but it need not be at the cost of public awareness. Hence strict enforcement of Pollution Control policies, eco-friendly inputs and increase in ecosystem resilience through the conservation of biodiversity are necessary to shapes a clean and Green Earth.

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