

Vol. VII

Jul-Sept, 2022

Issue III

# **NUJS Journal of Regulatory Studies**

**( A Multidisciplinary Blind Peer Review Journal)**

ISSN: 2456-4605(O)



**CENTRE FOR REGULATORY STUDIES,  
GOVERNANCE AND PUBLIC POLICY**

**WBNUJS**

## **EDITOR-IN-CHIEF**

**Prof. (Dr.) Nirmal Kanti Chakrabarti**, Vice-Chancellor, WBNUJS

## **MANAGING EDITOR**

**Dr. Jayanta Ghosh**, Head and Research Fellow, CRSGPP, WBNUJS

## **EDITORIAL ADVISORY BOARD**

**Prof. (Dr.) N. L. Mitra**, Former Chancellor, KIIT University; Former Director, NLSIU;  
Former Vice-Chancellor, NLU, Jodhpur

**Justice Jyotirmay Bhattacharya**, Former Chief Justice, Calcutta High Court

**Justice Ashim Kumar Roy**, Former Judge, Calcutta High Court

**Prof. (Dr.) Srikrishna Deva Rao**, Vice-Chancellor, NLU, Delhi

**Prof. (Dr.) Dilip Ukey**, Vice-Chancellor, MNLU, Mumbai

**Prof. (Dr.) G. S. Bajpai**, Vice-Chancellor, RGNUL, Patiala

**Prof. (Dr.) V. K. Ahuja**, Vice-Chancellor, NLUJA, Assam

**Prof. (Dr.) S. Shanthakumar**, Vice-Chancellor, GNLU, Gandhinagar

**Prof. (Dr.) Manoj Kumar Sinha**, Director, Indian Law Institute, New Delhi

**Prof. (Dr.) Abhijit Guha**, Senior Fellow, ICSSR

**Prof. (Dr.) Rathin Bandopadhyay**, Professor, Department of Law, NBU

**Prof. (Dr.) Thammaiah Ramakrishna**, I.P.R. Chair Professor, NLSIU

**Prof. (Dr.) Abhijit Mitra**, Director, Research, Techno India University, West Bengal

**Prof. (Dr.) Uday Shankar**, Registrar, HNLU, Raipur

## **EDITORIAL BOARD**

**Prof. (Dr.) Indrajit Dube**, Professor, RGSOIPL, IIT Kharagpur

**Prof. (Dr.) Arup Kumar Poddar**, Professor, WBNUJS, Kolkata

**Prof. (Dr.) Anirban Mazumdar**, Professor, WBNUJS, Kolkata

**Prof. (Dr.) Kavita Singh**, Professor, WBNUJS, Kolkata

**Dr. Samuel Andrews**, USA Ambassador's Distinguished Scholar, Ethiopia and Professor of  
Intellectual Property Law

**Prof. (Dr.) Debasis Poddar**, Professor, NLUJA, Assam

**Dr. Joshua Aston**, Associate Professor & Associate Dean (Law), School of Business and  
Law, Edith Cowan University, Australia

**Dr. Ana Penteado**, Adjunct Professor, University of Notre Dame, Australia

**Dr. Sanjit Kumar Chakraborty**, Associate Professor, WBNUJS

**Mr. Althaf Marsoof**, Assistant Professor, College of Business, Nanyang Technological  
University, Singapore

**Dr. José Noronha Rodrigues**, Director, Centre of Law and Economics Studies, and Assistant  
Professor, University of the Azores, Portugal

**Dr. Aswini Siwal**, Assistant Professor, University of Delhi

## **ASSISTANT EDITORS**

**Vijoy Kumar Sinha**, Research Assistant, CRSGPP, WBNUJS

**Sanghamitra Baladhikari**, Research Assistant, CRSGPP, WBNUJS

## **PUBLISHER**

**Mrs. Sikha Sen**, Registrar (Acting), WBNUJS

## **TABLE OF CONTENTS**

---

<b>NATIONAL EDUCATION POLICY, 2020 AND ENVIRONMENT EDUCATION: CHALLENGES AND OPPORTUNITIES.....</b>	<b>2</b>
Dr. Munish Swaroop & Prof. (Dr.) Ashish Verma.....	2
<b>GLOBAL CLIMATE DIPLOMACY-CHALLENGES &amp; OPPORTUNITIES .....</b>	<b>12</b>
Dr. Makhan Saikia .....	12
<b>RIGHT TO CLEAN WATER: A NATIONAL AND INTERNATIONAL PERSPECTIVES .....</b>	<b>25</b>
Prof. (Dr.) J. Mahalakshmi .....	25
<b>FUTURE OF BLOCK-CHAIN TECHNOLOGY: PERCEPTION OF NEW INVESTORS IN BHUBANESWAR .....</b>	<b>37</b>
Dr. Snigdha Sarkar & Dr. Arpita Mitra .....	37
<b>ON NOAH’S ARK: BUILDING ARGUMENTS FOR CLIMATE MIGRANTS.....</b>	<b>50</b>
Dr. Arindam Basu & Shimul Dutta.....	50
<b>REVISITING THE CONCEPT OF PAROLE SYSTEM IN INDIA : CRITICAL ANALYSIS.....</b>	<b>71</b>
Sushree Saswati Mishra .....	71
<b>STOCKHOLM +50 OUR RESPONSIBILITY TOWARDS SUSTAINABILITY AND HEALTHY PLANET FOR ALL – A STUDY WITH SPECIAL REFERENCE TO INDIA.....</b>	<b>85</b>
Dr. Susmita Dhar .....	85
<b>THE CONUNDRUM OF SPACE DEBRIS AND ITS SUSTAINABLE REMEDIATION BY POLLUTER PAYS PRINCIPLE.....</b>	<b>99</b>
Ditipriya Dutta Chowdhury .....	99

## NATIONAL EDUCATION POLICY, 2020 AND ENVIRONMENT EDUCATION: CHALLENGES AND OPPORTUNITIES

Dr. Munish Swaroop<sup>1</sup> & Prof. (Dr.) Ashish Verma<sup>2</sup>

<sup>1</sup>Assistant Professor, IMS Unison University, Email: dr.munishswaroop@gmail.com

<sup>2</sup>Professor & Dean, IMS Unison University, Email: dean.sol@iuu.ac

### Abstract

*One of the most glaring problems which the world faces today is environmental pollution. Man has exploited nature excessively at the cost of the environment. There is an immediate need to make people aware of environmental degradation. UNESCO claims “Environmental education is a method of putting the objectives of environmental conservation into practise”. It is a lifelong multidisciplinary subject of study, not a distinct branch of science. It refers to education for environmental preservation and improvement, as well as education as a tool for growth to raise human societies' standards of living. India has started several initiatives, one of which is making environmental education mandatory at all educational levels. There is a need to reorient the environmental education curriculum to make it more appealing and responsive to the local environmental issues in today's world where environmental conditions are changing negatively, and all living things are suffering because of environmental pollution and climate change. The environment must prepare Students with the necessary Life Skills besides academic skills. India's National Education Policy 2020 takes great care to address the common issues related to the learning Environment and proposes measures to keep it in top shape & form. The new Education System takes over a kid when she or he is just three years old, and that certainly puts enormous responsibility on the System. This paper will cover important points of NEP 2020 regarding Environment Education and its evaluation and challenges in the near future.*

**Keywords:** environment education, challenges, opportunities, curriculum, and National Education Policy 2020.

### Introduction

The first colour image of the Earth was captured in 1972 by Apollo 17.<sup>1</sup> Our planet was shown as a blue marble set against a pitch-black void. We all agreed that Earth is a closed, finite system and is the only place we must call home. Our blue marble, also known as One Earth,

---

<sup>1</sup>Blue Marble - Image of the Earth from Apollo 17, <https://www.nasa.gov/content/blue-marble-image-of-the-earth-from-apollo-17> (last visited Nov. 1, 2022)

needed to be taken care of "as a complete and complicated mechanism supporting an extraordinary complex network of interacting and interrelated life," according to this statement.

Environmental catastrophes have occurred during the preceding decades have raised public concern and knowledge about the environment. It was obvious that a coordinated reaction was required throughout the Cold War and the numerous nations that were battling colonialism. Some nations advocated for the United Nation to take on more environmental initiatives.

The United Nations Charter, the founding document of the UN, aims to enhance everyone's quality of life by fostering peace, stability, economic growth, and human rights. On environmental concerns, though, it was mute. The basis for worldwide collaboration on environmental issues was ultimately created by "the initiative of a little country in Scandinavia."

There has always been disagreement and conflict surrounding environmental concerns. The 1972 United Nations Conference on the Human Environment, which in turn influenced environmental management for the following 50 years, was formed by these discussions. Because of the debates inspired by the conference, important concepts like sustainable development and organisations like the United Nations Environment Programme (UNEP) exist today.<sup>2</sup> The Stockholm Conference showed that collaboration on environmental and sustainable development challenges is feasible when leaders take the initiative and pay attention to everyone's concerns.<sup>3</sup>

Governments gathered in Stockholm, Sweden, fifty years ago, and formally recognised the relationship between the environment and development, putting it at the forefront of the global agenda. The work initiated by the UN Conference on the Human Environment in 1972 has led to the formation of important concepts and organisations, including "sustainable development" and the United Nations Environment Programme (UNEP). It was made clear that intergovernmental collaboration is conceivable during the Stockholm Conference.

The Stockholm Declaration and Action Plan addressed several concerns related to the environment and sustainable development. The Stockholm Conference was essential in identifying these issues, bringing attention to the difficulties that needed to be solved, and putting the world on the path to a more ecologically sustainable way of life. Governments negotiated treaties, enacted plans of action and programmes, gathered environmental data,

---

<sup>2</sup> Engel, R. and Engel, J. (1990) *Ethics of Environment and Development*, Belhaven Press

<sup>3</sup> Dewey, J. (1934) *Art As Experience*, New York, Minton, Balch

founded scientific organisations, hosted international conferences, and built environment ministries along the way.<sup>4</sup>

The Stockholm Declaration, 1972 comprises the proclamation of 26 principles and several other submissions of recommendations. Every principle which is laid down in the Stockholm declaration is an important provision of the declaration. However, Principle relating to Environment Protection Education is envisaged under Principle number 12.

### **Principle 12: Environment Protection Education**

Humans need to be educated about environmental protection to make them much aware about the issue. It is essential and it should be communicated to humans by conducting skits or through media or any other medium to make people aware of the environmental crisis so that people would work effectively to control the pollution by putting their efforts.

Thus, Education relating to Environment protection is itself the major principle under Stockholm declaration 1972.<sup>5</sup> Environmental education focuses on the facets of human behaviour that are more closely connected to how a person interacts with and comprehends their biophysical environment. Through the process of environmental education, people may learn about environmental problems, solve them, and take steps to protect the environment.<sup>6</sup> People have a greater grasp of environmental concerns as a result, and they are more equipped to make wise choices.

A complete, ever-evolving education that is responsive to changes in a world that is changing quickly is environmental education. Understanding the key issues of the modern, complex world—problems brought on by the interaction of the biological, physical, social, economic, and cultural components of the person and the community—helps to prepare the individual and the community for life. Environmental education restores a broader perspective that recognises the fundamental interdependence between the natural and built environments, as well as the connection between current actions and future effects.

### **Need of Environmental Education**

---

<sup>4</sup> SEEC (Scottish Environmental Education Council) (1987) Curriculum Guidelines for Environmental Education, Paisley, SSEC

<sup>5</sup> Stodolsky, S.S. (ed.) (1988) The Subject Matters, Chicago, The University of Chicago Press.

<sup>6</sup> *ibid.*

Environmental damage has been proven by Global Environment Outlook's several reports. The environment is under more and more stress because of population expansion, economic activity, and consumption habits. It implies that many forms of pollution have continued to be caused by the quick increase in demand for energy, transportation, and other forms of consumption.<sup>7</sup>

Unsustainable land use has resulted in soil erosion, nutrient depletion, water shortages, salinity, and disturbance of biological cycles, which are all examples of land degradation. Degradation affects other ecosystems, productivity, biodiversity, and climate change. Water scarcity is worsening, which threatens environmental services, food security, public health, and development.<sup>8</sup> The consequences of population expansion, rural-urban movement, growing income, resource exploitation, and climate change pose a danger to the quantity and quality of water and land resources as well as environmental support services. Future development is still gravely threatened by the loss of ecosystem services and the reduction in biodiversity on a global scale.<sup>9</sup> Therefore, environmental deterioration impedes progress, endangers future development, and is unmistakably connected to issues with human health.

India is currently dealing with comparable issues. According to the most recent official assessment by the Centre for Science and Environment<sup>10</sup> (CSE) on the condition of India's environment, Such as: -

- The report also dissected 2011 census data on migrant populations and found that more than 50 lakh people were evacuated within India last year, which is the highest number in the world.
- Flooding brought on by the south-west monsoon caused 26 lakh displacements, while Cyclone Fani alone caused 18 lakh displacements, followed by Cyclones Vayu and Bulbul.
- At the time of the tragedies, there were more than 45 crore migrants in the nation, the most of them were moving inside their own State.

---

<sup>7</sup> Cooper, G. and Sterling, S. (1992) *In Touch: Environmental Education for Europe*, Godalming, World Wide Fund for Nature

<sup>8</sup> Bennett, S.N. (1976) *Teaching Styles and Pupil Progress*, Wells Open Books

<sup>9</sup> CEE (Council for Environmental Education) (1987) *Introducing Environmental Education. Book 2, Schools: Educating for Life*, Reading, CEE

<sup>10</sup> CSE criticises environment ministry's new notification on emission norms for coal-based power plants, <https://www.cseindia.org/cse-criticises-environment-ministry-s-new-notification-on-emission-norms-for-coal-based-power-plants-11409> (last visited Oct. 25, 2022).

- In 2011, more than 1.7 new migrants, mostly from rural to urban regions, moved for work objectives.
- Forest covering has reduced by 38% in the areas, and five of the 21 river springs are currently experiencing total water shortages.
- 1,357 people died last year because of 19 significant weather disasters.
- The Corona shutdown experiences have ensured that industrial activity and vehicle emissions are the primary contributors to urban air pollution. With a mean annual rainfall of roughly 1200mm, this resource is becoming scarce due to a lack of effective water management techniques.

These are but a few justifications for why we might anticipate improved environmental education. It is crucial to comprehend how we are connected to nature. We depend on our surroundings. To promote a sustainable environment, it is essential to comprehend our relationship with nature and the fact that we are just one species among many on a globe teeming with life.<sup>11</sup>

Our activities have brought about positive effects, including life expectancy, material wealth, travel, and leisure. But there are other more unfavourable developments. have emerged from land degradation, air and water pollution, and extinction that endangers human well-being. It poses a risk to human health. Most significantly, we must comprehend our relationship to the because understanding the environment is a crucial first step in resolving our most urgent environmental issue that eventually affects the social, economic, or health systems.

### **Historical perspectives in Environmental Education**

The concept of environmental education in India is not unusual nor recent. It has been around since prehistoric times. With a clear warning on the consequences of environmental deterioration and the necessity for conservation for human life, every religion and every culture in India emphasised environmental concerns while representing the traditions and societal viewpoints. Nature is viewed as an all-encompassing force in Indian culture.<sup>12</sup>

The ancient Hindu texts, including the Vedas, Puranas, and Upanishads as well as the legendary Mahabharata and Ramayana, have firmly established the justification for environmental

---

<sup>11</sup> Sharma, R.C. and Merle C. Tan (1990). Source Book in Environmental Education for Secondary School Teachers, UNESCO, Bangkok.

<sup>12</sup> Sharma, P.D. (1999). Ecology and Environment. Rastogi Publications, Meerut.

conservation as well as religious rituals and prohibitions against the excessive exploitation of natural resources. For instance, there are several references to Man-Earth interactions in the Atharva Veda's *Prithvisukta*. However, this tradition is still present in indigenous communities across the nation.

Since 1930, the Indian educational system has included elements of environmental education in its curricula. The Report of the Education Commission (Kothari Commission-1964–1966)<sup>13</sup> laid the foundation for the current state of informal environmental education. In the initial phase, the Report suggested that *"the primary school science curriculum should focus on helping students gain a thorough grasp of the key facts, ideas, principles, and processes in the physical and biological environment."*<sup>14</sup>

There was enough information about the environment in the scientific and social science curricula and teaching materials, as well as to some extent in the language and mathematics curricula, to achieve the required goals. At the senior secondary level, the biology, chemistry, physics, geography, sociology, and mathematics textbooks all included enough information on the environment to advance the knowledge, comprehension, and abilities learned up to that point in the secondary stage.

The 42nd amendment to the Indian Constitution, passed by the government in response to the UN conference in 1972, encouraged environmental awareness by requiring the state to "take measures to protect and improve the environment and to safeguard the forests and wildlife of the country" (Article 48 -A). By inserting the phrase "thereof requires, every citizen to protect and improve the natural environment including forest, lakes, rivers and wildlife and to have compassion for living creatures".<sup>15</sup> "Fundamental Duties" in Article 51 A clause (g), it further made every person accountable. Given this context, the Indian government formed the Department of Environment in 1980, later redesignating it as the Ministry for Environment and Forests in 1985.

The government introduced its national education policy (NEP) in 1986, and one of its main focuses was the importance of giving education at all levels an environmental emphasis.

"There is a crucial need to foster an awareness of the environment," the policy declared. It must start with children and spread to every aspect of society. Schools and universities should be

---

<sup>13</sup> National Council Of Educational Research And Training, Report Of The Education Commission, 1964-66 (1970), <http://www.academics-india.com/Kothari%20Commission%20Report.pdf>

<sup>14</sup> Ibid.

<sup>15</sup> Singh, Y.K. (2007). Teaching of Environmental Science, APH Publishing House, New Delhi.

environmentally responsible. This element will be included throughout the entire instructional procedure. The National Council of Education Research and Training (NCERT), which oversaw carrying out the strategy, recognised the need of placing teachers at the core of any reforms in education. The government launched a significant teacher-training programme in the summer of 1986. A revised orientation was given to thousands of instructors.

At the primary school level, Environmental Education (EE) is presented as Environmental Studies (EVS). The physical, biological, and social aspects of our environment are studied in EVS for grades III through V, with a focus on preserving and conserving it (NCF 2005). The National Curriculum Framework (NCF)-2005 states that environmental education is very much integrated into a variety of courses, including physics, mathematics, chemistry, biology, geography, history, political science, health and physical education, art, and music.

The following are some of the goals of teaching EVS, according to the NCF 2005.

- To teach children how to see and understand connections between the natural, social, and cultural setting.
- To create an understanding based on observation and examples taken from real-world experiences. rather than abstract ideas, consider life's physical, biological, social, and cultural components.
- To develop cognitive ability and resourcefulness in order to make the youngster interested in social issues occurrences, beginning with the immediate family and expanding to larger places;
  - to encourage a child's inventiveness and sense of wonder, especially about the natural world (including people and objects); to increase knowledge about environmental concerns.
  - Involve the kid in hands-on, exploratory activities to help them learn fundamental cognitive and psychomotor abilities through observation, categorization, inference, etc.
  - To place an emphasis on design and fabrication, estimation, and measurement as a foundation for the later development of technological and quantitative skills.

- To be able to critically address gender issues and issues of marginalisation and oppression with values of equality and justice, as well as respect for human dignity and rights.

### **New Education Policy 2020: Opportunities and Challenges**

A path for reclaiming, re-articulating, and reconstructing the Bhartiya self is provided by NEP-2020 so that we may become a world leader (Vishwaguru) where equity, equality, and brotherhood would be honoured<sup>16</sup>. The current environmental education system is not improved by it. With the way environmental education is now set up, it is happy.

It does give the proper weight to sustainable development goals, which are also concerned with environmental benefits, The strategy also places a strong emphasis on the dissemination of indigenous knowledge, which is excellent for addressing environmental issues.

However, the failure of the Indian educational system to realise the need for greater environmental education is quite regrettable. Environmental concerns are not a priority for the school system in India. Due to this mentality, India is falling behind in environmental research. Therefore, it was essential that we discuss the environmental education curriculum and pedagogy reforms that are much required.<sup>17</sup>

We shall encounter the beginning stages of a trend that gravely risks damaging the very fabric of our existence within our generation if the current rate of environmental devastation is allowed to continue. The current degree of environmental damage is unprecedented in the history of humanity. The environmental issue is mostly caused by overconsumption, which is why environmental education must emphasise consumption restraint. In the end, modifying our consumption habits will help protect biodiversity and our own environmental welfare.<sup>18</sup>

These challenges to environmental education force us to reconsider how we do research, educate and train environmental specialists and educators, formulate legislation, and disseminate environmental knowledge to the public.

From now on, Environment Education (EE) will be included as a subject in the form of only a few chapters of the textbook. It limits the scope of discussion of Environmental Issues because it is integrated into Core Issues. Centralized textbooks do not address specific regional

---

<sup>16</sup> Sathyabhushan, Govinda R. And Anjana Mangalagiri, Environmental Education Hand book for Educational Planners. (1990) NIEPA, New Delhi.

<sup>17</sup> Joseph Catherine (2011) Environmental Education, Neelkamal Publications PVT LTD, Hyderabad.

<sup>18</sup> Prashanth, M.S. and Hosetti, B.B. (2010). Elements of Environmental Science. Prateeksha Publications, Jaipur.

contextual issues.<sup>19</sup> The limited availability of EE in teacher training may be the reason for the limited nature and motivation of teachers for teaching methods.

It is difficult for instructors to include EE into their lessons due to a lack of reference resources on the environmental issues and difficulties unique to each state and poor school infrastructure. Here are some suggestions for overcoming the problems mentioned:

- The school libraries might receive genuine reference resources from different governmental and non-profit organisations. This would help the instructor contextualise the state's environmental issues.
- Giving schools access to information and communications technology (ICT) would provide them quick access to digital materials and contribute to raising awareness of environmental concerns in the nation and throughout the world.
- It is important to urge teachers of core disciplines to pay attention to EE themes that are interwoven with the material of other subjects.
- To assist the instructor in the classroom, it would be necessary to organise modules, seminars, and frequent discussion forums.
- There should be regular textbook revisions to allow for the integration of modern environmental issues.
- In the context of instruction, case studies, field trips, and Nature hikes and project work should be promoted to foster an inquiry- and exploration-based mentality.
- It is possible to build appropriate practises that are child-directed and inquiry-based, based on research, theory, and real-world experiences.
- By encouraging critical thinking, problem-solving, and decision-making in realistic situations, compelling stories and case study evidence would help the comprehension of EE techniques.
- The development of environmental awareness, skills for understanding the environment, curiosity, and inquiry, as well as a personal feeling of duty and care, might all be included in the curricular framework for environmental learning.

---

<sup>19</sup> Jayant Gangrediwar (2014), Environmental Science, SBW Publishers, Delhi

## **Conclusion**

To make environmental education more pertinent, we must concentrate on global change. The fact that students do not see environmental challenges as personal matters contributes to the lack of change in their attitudes. This shortcoming may be fixed by giving pupils greater justifications for protecting the environment. It's great that so many natural science classes engage students' hearts and brains and promote optimistic thinking. However, research has consistently demonstrated that doing so on your own may not always provide the desired outcomes. To consider any change, one must identify his involvement in the issue at hand. Teachers can encourage this by designing green classrooms that provide pupils a place to organise themselves personally in their surroundings and immerse themselves in the problems that matter to them.

## **GLOBAL CLIMATE DIPLOMACY-CHALLENGES & OPPORTUNITIES**

Dr. Makhan Saikia

*Associate Professor of Political Science and HOD of Humanities & Social Sciences at Geeta  
University, Panipat, Delhi NCR, Email: drmakhansaikia@gmail.com*

### **Abstract**

*Global climate change is perceived to be one of biggest challenges that humanity is encountering today. Centrally, the climate system is the result of complex and dynamic interactions between the earth's atmosphere, oceans, and the biosphere. This work seeks to focus on the discordant debates, dialogues and narratives at diplomatic level that is primarily responsible for plaguing the global climate regime. Frankly, climate talk that is supposed to herald a brighter and cleaner planet for us has fast becoming a geopolitical power struggle. It is stressed here that these challenges could be transformed into opportunities to address our common concerns. From Japan to the US and from Iceland to Madagascar, our actions and interactions are all, either polluting the planet or aiding it to cope with the emerging disasters. The moot point is that we are all in the public square. Hence, the author strongly advocates that unless we display our responsibility to commit for a greener and cleaner environment, international actors are bound to fail in all their endeavours. Finally, the paper highlights how the participation of almost all actors starting from the civil society, grassroots governance agencies, national governments, global corporate conglomerates, human rights bodies, international institutions, and individual concerns on the issue of global warming has made it more complex, leading to a multi-layered conflicting debate. By spawning a variety of new elements and spaces to the ongoing climate talk, it has resulted into a proliferation of new perspectives, meanings, and utter confusions. Thus, to bring an end to this conundrum, the author offers a set of suggestions, to save the planet earth and not to mix the fight for global dominance with the concerns of the fast-deteriorating climate.*

**Keywords:** Climate change, diplomacy, power struggle, UN, global governance

### **Introduction**

Climate crisis is more serious than ever before. Time now is to fundamentally reorient our thinking process. Climate transformations are deepening. It is obvious that if it prolongs, the planet will witness massive disasters of man, material, and the environment. The complexity

of the climate crisis is very evident. The increasing levels of Green House Gas (GHG) emissions into the atmosphere is bringing serious impacts on the planet. While exploring plurality, complexity and opportunity in this climate change dilemma, what we observe is that the inequitable nature of the disaster is directly affecting the poorest and the most disadvantaged. Ironically, they all have contributed very little to this crisis. To create a resilient planet, words and pledges are to be transformed into actions. However, at the heart of this debate and emergency, it is clear that an increasingly institutionalised neoliberal consensus has forced the majority of the nations to rethink their strategies to counter the climate emergency.

It is evident that a complex and scientific enquiry has co-emerged with an imposing neo-liberal global governance system in the climate arena. Again, this institutional mechanism entails a multi-layered, networked system starting from the UN, its special agencies to civil society organizations (CSOs). The current climate governance regime consists of system that is guided by the United Nations Framework Conventions on Climate Change (UNFCCC) and the Kyoto Protocol, fully informed by varied scientific discourses through the Intergovernmental Panel on Climate Change (IPCC). And all these are enacted and backed by the various national governments across the world.

From Stockholm (Sweden), Rio de Janeiro (Brazil), Bali (Indonesia), Kyoto (Japan), Durban (South Africa), Katowice (Poland), Paris (France), Glasgow (UK) to now in Sharm El-Sheikh (Egypt) the point made is to bring a fundamentally pragmatic approach to minimise the disastrous effect on the planet. To formulate appropriate policies and strategies to counter the current climate emergency, a thorough grasp and analysis of the key global climate diplomacy initiatives is a must. To delineate political wranglings over the very foundations of the climate talk would enable us to steer clear the road ahead for a better planet. It is certain now that ‘future weather will not be like past weather; future climates will not be like past climates’.<sup>1</sup> Yes, it is true. Climate change is an environmental, political and cultural issue that reorienting our daily lives, whether consciously or unconsciously. Therefore, it’s time now to develop a constructive way to approach the climate change crisis to locate the probable solutions. Though very controversial and highly debateable issue, the former Secretary General of the UN, Ban Ki-moon (2007-16), perhaps rightly said that ‘climate change is the moral challenge of our

---

<sup>1</sup> M. Hulme. ‘Mapping Climate Change Knowledge: An Editorial Essay’, WIREs Climate Change, Vol 1, No. Jan/Feb, 1-8 (2010).

generation'.<sup>2</sup> The way the crisis brewed it has brought in front of us sheer ethical contestations. And, by most accounts, this environmental tragedy has not only created contestations between national governments and international organizations, but also between citizens and their respective governments, and finally between the current epoch and a sustainable future of this planet. Thanks to the IPCC, it has presented a powerful scientific consensus about the health of the atmosphere. And other important players in this like national governments, varied scientific agencies, CSOs, INGOs, and individual research have equally evinced similar results about the physical transformations of the climatic conditions. It is expressly envisioned that anthropogenic contribution to climate change is paramount.

### **Why the Climate Crisis is Alarming?**

Throughout its history, the planet earth has warmed and cooled on its own. It's a natural course. What differs from the past warming is that a new element called humanity has added to the warming of the earth's climatic system in the past century. To put it simply, global warming is the unprecedented rise of the earth's surface temperature. It is primarily increasing because of the release of the GHGs by burning of the fossil fuels. It is mainly attributed to the presence of high levels of Carbon dioxide, CFCs and other pollutants in the earth's atmosphere. It is alarming as the climate change is affecting all other aspects of human, animal, and plant life.

'Glaciers are melting, sea levels are rising, cloud forests are dying, and wildlife is scrambling to keep pace. It has become clear that humans have caused most of the past century's warming by releasing heat-trapping gases as we power our modern lives. Called Greenhouse gases, their levels are higher now, than at any time in the past in 800, 000 years'.<sup>3</sup>

This demonstrates that humanity is experiencing a new threat from which no one can escape. Each part of the world has its own unique environmental issues, but all are undergoing epochal transformations in the last half a century. Each of the last four decades has been successively warmer than any decade that preceded it since 1850. Global surface temperature in the first two decades of the 21<sup>st</sup> century (2001-20) higher than 1850-1900. The estimated increase in global surface temperature in recent times is due to further warming since 2003-2012. Additionally, scientists confirm that the observed warming is driven by emissions emerging from human

---

<sup>2</sup> Ban Ki-moon. 'Forward' in P. McMullen (ed.), *Climate Change Science Compendium*, United Nations Environment Programme (UNEP), ii ([www.unep.org/compendium2009/](http://www.unep.org/compendium2009/)).

<sup>3</sup> Christina Nunez. 2019. 'Causes and Effects of Climate Change' (2019). Available at (<http://www.nationalgeographic.com/environment/article/global-warming-overview/>).

actions accompanied by GHG warming partly masked by aerosol cooling. The global temperature and overall weather change is dramatic.

Last year, the UN Secretary General Antonio Guterres sent a warning signal to the world about the current status of the climate change. He said that the IPCC Report was nothing short of a ‘code red for humanity’. He cautioned that ‘The evidence is irrefutable: greenhouse gas emissions are choking our planet & placing billions of people in danger. Global heating is affecting every region on earth, with many of the changes becoming irreversible. We must act decisively now to avert a climate catastrophe’. The IPCC’s latest report highlights that scientists have observed changes in earth’s climate in each part of the globe and across the entire climate system. Guterres also noted that internationally agreed thresholds of 1.5<sup>0</sup>C above preindustrial levels of global heating was perilously close. Indeed, we all are very near to cross the redline. The only way to prevent exceeding this threshold is by urgently stepping up our efforts and pursuing the most ambitious path. Though the climate change is ‘widespread, rapid and intensifying’ as the IPCC says but still there is time to prevent the calamity. Thus, strong and sustained reductions in emissions of the CO<sub>2</sub> and other GHGs can swiftly make the atmosphere cleaner. And if it really happens, it is predicted that within a span of 20-30 years, the rise of global temperatures could very well be controlled.

### **Tracing History: Why the Climate Talks Have Failed so far?**

Since the inception of the concern of the climate crisis, it has been marked that very few of the global actors and institutions are truly committed to the cause. The big polluters have always remained at the backdrop. Even then pinning down who is exactly responsible for it is trickier than it really seems. The brute reality is that all earlier actions initiated by the COPs and other global movements could have reduced the emission levels, but we did not do it sincerely. As a result, each passing year combined with inaction, the pollution levels have gone up and today global warming has become unmanageable. It is estimated that 70 per cent of the world’s GHG emissions over the last two decades are attributable to only 100 fossil fuel companies. Further a top 20 fossil fuel firms are behind a third of the world's emissions. Now the question is that who holds the power to control all of them and the rest which are spoiling the atmosphere? Precisely, we need to acknowledge the fact that allocating the blame to a particular group of companies, countries or individuals do not mean that they are solely responsible for the climate crisis. It is to be accepted that we all are using the products or by-products of these business

houses or things supplied by those polluting countries or individuals. True, no one can be spared for the deteriorating health of the planet.

Looking at the last two COP meetings, we could only sense failures. The COP25 in Madrid was a total disaster. It did not completely collapse, but certainly failed for many who expected that there could be hope for future. It was billed as a final session to offer guidelines for carbon markets to complete the Paris Agreement rulebook. The UN Secretary General Guterres also labelled the COP25 as ‘disappointing’. The COP26 at Glasgow again passed on as another platform for big power clash and wranglings. And now the COP27. We all are sensing a bitter struggle here as well. Frankly, the Paris Agreement that birthed the ‘can do spirit’ and to offer a hope for the world’s most vulnerable and underprivileged now has become a distant memory. These continued failures should have reminded the world leaders, business tycoons, social activists, scientists and the diplomatic community to rework their way to success.

### **Big Power Rivalry and the Global Climate Governance**

The intricate panorama that surrounds the global climate talks is beset with big power rivalry. This work illustrates the key steps initiated by the United Nations Framework Convention on Climate Change (UNFCCC) in the last decade. It is important to see how this platform, the main multilateral institution for debating global action on climate crisis is plagued by big power clashes for long.

The fight to sustain its hegemony in world affairs, particularly in global climate governance system is apparent from the efforts made by Washington over a decade or so. Its all because of the rise of China in the last three decades. Since its joining of the World Trade Organization (WTO) in 2001, its vision and mission for international expansion have been earmarked in almost all sectors. In general, the word hegemony is understood in terms of dominance. However, a Gramscian perspective underlines that hegemony is all but exertion of power by consensus. Drawing on the past experiences in international politics, consensus building is proved to be unimaginable. When both Beijing and Washington are vying for superiority, how can consensus be built by them on major global issues. In reality, its China that is fervently making strides to both counter and equate its position to the US in all major global governance institutions.

Is there a need to de-politicize this institution? Climate concern is common. So, an urgent need for depoliticization of the body is needed. After analysing the existing discursive struggles, it

can be concluded that unless shortcomings are addressed, global actions towards tackling climate change are not going to be realised.

The Washington vs Beijing has become synonymous for global power struggle today. Is it a fight for emission reduction or for achieving a 'Power Cult'. It seems the current contestations in climate governance is leading to re-establish a dominant 'Power Cult' in global politics.

Since the emergence of the WTO, the international stage has been set more for economic dominance than for political power play. The economic globalization accompanied by a huge upsurge in the field of information and communication technology have created a placeless world. This has made business, migration and knowledge flow to all corners of the globe with a much higher speed than ever before.

In this new scenario, China quickly emerged as an alternation source power to the already established western liberal order and also, especially to the Bretton Woods system. When China joined the WTO in 2001, it was regarded as the most pivotal development for the international economic order. Many analysts, mainly from the West, advocated China's decision to join the global trade body as its bold commitment to reform. It was expected that Beijing will abide by the rules of the global trading regime and will adjust its Communist command economy to the existing international system. However, one must be very clear that China is a vast state, and it is completely under the control of the CCP. Many within China preferred to welcome a liberalised free market economy, and some stood for an economic model already prevailing in Japan and South Korea. But the majority i.e. more than half of the 90 million plus members of the CCP wanted China to continue with its command economy. And these members beginning from global financial experts to ordinary people to the dyed-in-the-wool apparatchiks have a mixed opinion about China's entry into the elite club. So, while maintaining its market open to the outsiders, the Beijing Mandarins have kept intact its brand of socialism with Chinese characteristics.

And with this, China has gradually marched into the global stage and challenged the US and western hegemony in international institutions. Especially under the current Chinese President Xi Jinping, who has been ruling the country since 2012, the Middle Kingdom has openly challenged the US on all fronts. and now this October, he has extended his term to another five years, by breaking the very principle of 'Collective Leadership', once devised by legendary Deng Xiaoping. With this, Xi has warned the world leaders, particularly the US that China is

ready to set an alternative to the current global governance system. Washington is seriously under threat from Beijing, and it is continuously focussing on the Asia Pacific now much more than it did a decade before. This 'China challenge' has become a new symptom of geopolitical threat in all fields. This has been a cause of concern for making the climate change targets in the COPs. Unless these big powers are agreeing on a consensus to prevent the climate menace, humanity will soon lose the battle for reviving the green planet.

### **Role of International Non-Governmental Organizations (INGOs), Civil Society Organizations (CSOs) and the Media**

We all live in the public square. There is no place to hide. In an age of internet and communication propelled by globalization, the humanity is under surveillance. Our actions and reactions are being observed, recorded and circulated globally for mass consumption. At this critical juncture, when the environment is facing threats from our actions, the steps initiated by the INGOs and CSOs are noteworthy. The level of awareness and generation of information by them are immensely supporting the global community to fight the challenges brought by climate disasters.

It is once again underlined that governments at all levels—from the national to the grassroots, are responsible for helping communities responding to the emerging climate emergency. But the practice that is prevailing now is that most of these governments and their agencies act only under pressure either from the public or from the concerted efforts of the CSOs and the INGOs. Hence CSOs and INGOs have a social responsibility to raise awareness about climate change at local and regional levels while helping the governments, global governance institutions and numerous donor organizations to curb GHGs in the near future.

Initially, the role played by the CSOs from the advanced nations were very prominent at international climate talks and negotiations. But in 2009 in the run up to the COP15 at Copenhagen, the situation began to change. Many of the CSOs and INGOs in the Global South began to organize around climate change and development issues. And these organizations have started organizing at local and regional levels to articulate their voices around the specific issues that particularly affecting these nations from Asia, Africa, Latin America and the vulnerable island nations from the Pacific. The rapid climate change is impacting the world's poorest and the most vulnerable in the Global South and other parts of the world.

The report released by the Southern Voices on Climate Policy Choices in 2012 clearly highlights that ‘Climate change is happening now and is leading to a variety of impacts, including changing rainfall patterns, increases in number of floods, droughts and storms and slower onset changes such as rises in sea levels. This is affecting food security and water resources and leading to more disasters, especially among the world’s poorest and most vulnerable communities’.<sup>4</sup> This indicates how increasing emissions are affecting the Global South and CSOs are raising these issues at global platforms like the COPs.

It is to be noted here that print, electronic and social media have also played a remarkable role in raising awareness particularly in regard to weather change and its impact on earth. Thus strong engagement with the media for environmental advocacy can facilitate programmes and policies to outreach the common people who are the worst sufferers of the crisis. More recently social media platforms such as Twitter and Facebook have largely influenced people to fight for their lives, livelihood and rights on the face of fast degradation of the environment. Media coverage including the failures of governments and global institutions, reports released by UN and other key agencies, individual research outcomes on climate change are making people realise the hazardous impact of the emission of the GHGs.

It is immensely reported that our biodiversity is fully under threat. This learning mostly available either on free or on affordable platforms have done a yeoman’s service to humanity indeed. Finally, how young climate activists like Greta Thunberg are campaigning for climate justice is noteworthy and historic. While addressing the European Parliament and the UN, she has warned the global leaders that they have no right to steal the future of the young and also, she emphasised that the young people will not allow them to surrender their future. She clearly told the EU leaders that they should lead the way and have a moral obligation to do so. Its again a climate war declared by the youth leader to prevent the climate apocalypse.

### **Global Climate Justice Case**

Just before embarking on the path to the COP-27, 12 countries (Germany, New Zealand, Singapore, Vietnam, Uganda, Samoa, Antigua and Barbuda, Bangladesh, The Federated States of Micronesia, Costa Rica, and Lichtenstein) are seriously backing an initiative launched by the Vanuatu Government to see the linkage between the violation of human tights and climate

---

<sup>4</sup> Reid, H, Ampomah, G, Olazabal Prerah, M.I., Rabbani, G., Zvigadza, S. Southern Voices on Climate Policy Choices, (International Institute for Environment and Development, London, 2012) 38. Available at (<https://www.iied.org/sites/default/files/pdfs/2021-01/10032IIED.pdf>)

change. Here the issue of concern raised by the Vanuatu Government is that sustained climate change and disasters brought by them are leading to the breakdown of universal human rights and values. While demanding an investigation over this issue, the Government has alerted the international community that the issue must be addressed by the International Court of Justice (ICJ) based in The Hague (Netherlands) to get a legal clarity on the same. Hence seeking an advisory opinion from the ICJ over the issue itself highlights the fact that climate emergency is not only an issue of the environmental importance, but also it pertains to numerous democratic credentials like liberty, justice, equality, and most importantly rights. The violation of human rights is an unpardonable crime. Now it is learnt that this issue is going to be raised in the upcoming sessions of the United Nation General Assembly (UNGA), either in the later parts of the year 2022 or in early days of 2023. Once the voting is done on the issue, it would be referred to the ICJ. Ironically, though Australia has endorsed the campaign in principle, it has not so far joined the group. However regional and international pressure is mounting on Canberra to formally join the campaign before it enters the UNGA. This campaign was started in 2019 at a classroom in the University of South Pacific in Vanuatu, a nation that is there at the edge of climate risk. And on record, gross violation of human rights is fast becoming a part of the climate crisis in this island nation. The ‘Vanuatu Example’ as it can be rightly called and many more already on the line, is an alarming indication that it is the ICJ that must make an assessment of the grim situation created by the threat to the environment. The Pacific Vuvale (Vuvale is a word in Fijian language that stands for ‘Family’) is now concerned about the emerging threat to their survival and that is why it is urging Australia to give meaning to this environment pledge. Drawing on this deep-seated feeling of belongingness, it is very essential that Australia, a significant power in the Asia Pacific join the campaign and give the planet Earth, one more weapon to fight for its survival.

In fact, the small Pacific Island nations have been lobbying and speaking straight for quite some time to save their low-lying nations from the climate wrath. Last year, Prime Minister Josaia Voreqe Bainimarama of Fiji took the centre stage at the COP26 and seriously demanded the big emitter nations to accelerate their climate action programmes. He highlighted the idea that these plans must be useful both for the sinking Pacific nations and for the rest of the world. He repeatedly highlighted that the survival of the Pacific community is under threat. What he said rightly echoes a climate emergency: ‘All high-emitting countries must half global emissions by 2030. The G-20 nations who are prepared to make those commitments must demand the same from others. We have moral authority; you have a moral obligation. Together

our coalition of the willing can keep 1.5 alive, keep low-lying island nations above water, keep erratic and severe weather from devastating us all, and keep the trust between nations so that we can keep faith that our children and grandchildren will have a future. That includes making a good on the promise of \$100 billion in climate finance'.<sup>5</sup> This says all that what the humanity together should do to adopt urgent mitigation measures to fully control global emission levels. Science is right. Climate crisis is on the rise.

### **Climate Finance: Does It Matter?**

It does matter for the survival of the planet. Empty promises are not working anymore. Global finance is required to fight the climate risks. Without investing in the right places, particularly the poorer, vulnerable and developing nations, the global climate targets can't be reached. The climate finance is defined as 'the money which needs to be spent on a whole range of activities that will contribute to slowing down climate change and which will help the world to reach the target of limiting global warming to an increase of 1.5<sup>0</sup>C above pre-industrial levels'.<sup>6</sup>

With this it is overwhelmingly accepted that climate finance is needed to tackle what has been described by the UN as 'existential threat' of our times. To reach this goal, the world needs to reduce carbon emissions to practically zero by 2050. Indeed, more than a decade ago, the developed nations committed to mobilise \$100 billion per year by 2020 in support of climate action in developing countries. According to the UN, the annual \$100 billion commitment 'is a floor and not a ceiling' to mitigate the climate risks. But the advanced nations so far have failed to deliver on this promise and pushing the developing nations to the brink of danger.

### **The COP 26, COP-27 and the Road Ahead**

The COP26 last year was seemed to be a great beginning. The 'Global Methane Pledge' launched at Glasgow, the UK is a major step forward, but then experts say that only sincere implementation will be the key to its success. Its main aim is to reduce methane emissions. The initiative now has 111 members led by the US and the European Union (EU). In fact, when over 130 heads of government and state gathered at Glasgow, the prime concern was to set new conditions for reducing the greenhouse gas emissions released by the burning of coal, gas and

---

<sup>5</sup> PM Bainimaramas Statement at the COP26 Leaders' Summit available at <https://fiji.gov.fj/Media-Centre/Speeches/English/PM-BAINIMARAMA-S-STATEMENT-AT-THE-COP26-LEADERS-SU>.

<sup>6</sup> The Trillion-dollar Climate Finance Challenge and opportunity available at <https://news.un.org/en/story/2021/06/1094762>

oil. Though the COP conference is an annual affair, the year 2021 was especially significant as it demanded an immediate solution to prevent the worst effects of climate change. All the leaders were urged to make immediate strategic decisions to lessen the effects of warming gases to avoid additional pollutants into the atmosphere. Today, freezing relations between Beijing and Washington may once again threaten the COP27, with a devastating war in Europe, just when the world was coming out of the COVID-19. The climate meet at Sharm El Sheikh will witness how the developing nations are still waiting for the huge climate finance promised by the wealthy nations in 2009 at the COP15 in Copenhagen. They are justifiably angry over this, it is now more than a decade, this finance is falling short to fight the climate disasters. Besides, V20 group of nations is also at the epicentre of this crisis that threaten their capacity to mobilise the urgent resources to build resilient and low-carbon economies moving forward. The debt of the V20 countries is increasing with the global pandemic weakening the financial back of all the nations. In fact, the UN needs to scale up some more trillions in sustainable infrastructure to meet its Sustainable Development Goals (SDGs) in 2030 and to limit global warming to 2°C.

### **Conclusion**

While navigating through the global climate emergencies, it is realised that the following suggestions would extremely be high value in future:

- a. Firstly, it is time to engage multiple target groups to address the prevailing and future emergencies in various climate zones around the world. Sensitization part is already done and now the need of the hour is to facilitate a multifaceted coordinated action to tackle the burgeoning crisis.
- b. Secondly, to pressurize big cuts in carbon emissions, it is very essential to push the technological frontier.
- c. Thirdly, conducting regional dialogues and forging a web of leadership network would certainly be able to reduce major differences among the nations in tackling climate crisis.
- d. Fourthly, limiting further climate change would demand sustained cuts in GHG emissions. It is clear that without net zero CO<sub>2</sub> emissions, and a drop in the non-CO<sub>2</sub> forcing, the Green House will continue to be warmer.
- e. Fifth, the much-awaited climate finance needs to be delivered to the vulnerable nations.

- f. Sixth, the role of the UN, its agencies and other global donor organizations must play a pro-active role as they are doing now.
- g. Finally, more than a scientific issue, climate change has become an economic, political and social one. It is time to fight the climate emergency at all these levels.

When we look ahead of the current and persistent challenges, we see many more opportunities. But the reality is that woefully inadequate climate pledges by competing nations and bringing global power rivalry to the heart of the climate talks would lead us nowhere. Currently, we have difficult choices. So, the demand is for an impactful action at Sharm El-Sheikh on this November. The ultimate purpose is to secure a sustainable future for all.

At the end, it can well be concluded that it is just difficult to ascertain who should bear the entire costs and burdens of this climate disorder. There is no single factor or country that can be blamed for the continued deterioration of the health of the environment. Nevertheless, it is to be agreed here that mere moral prescriptions would be purely inadequate to address the intricacies of the climate dilemma. To find and work for an interpretive approach to climate change governance, we need to implement what Andersen said: ‘Sustainability is not a left or right issue: it is a long-term survival issue, an intergenerational justice and equity issue. We need to get on the right side of history and vote for the leaders who will do the right thing by the planet and so by us’.<sup>7</sup> The task for now is to work out the solutions to save earth. The UNFCCC explains in simple and succinct terms both the dangers and intergovernmental processes the steps to be taken to arrest the destabilising effects of climate change. Global diplomacy may once again derail the COP27 meet. There are more chances big powers squabbling for spoiling the meet. But especially both Washington and Beijing must realise that the planet’s atmosphere, treasured oceans and the fragile biosphere are already thrown out of balance by human activities.

It is widely believed that the solutions to fix the climate is within our grasp. But we will not achieve it through top-down international treaties and grand bargaining among the nation states unless we cut emission levels at regional and local levels. So far global diplomacy has failed to deliver self-sustaining reductions in emissions. So, no more bickering, whether it is between the US and China or between the global governance systems and the national and locals. The issue here is to realise the heat. Time to sense the imminent danger. Accordingly, to act towards

---

<sup>7</sup> Inger Andersen. Sustainability is about Being on the Right Side of History (2021) Available at (<https://www.unep.org/news-and-stories/speech/sustianability-about-being-right-side-history>)

implementing the policy prescriptions and heed carefully to the forewarnings constantly offered by the scientific community. Hope this COP27 does not become another deadlock and a dodge like the previous ones. Global diplomacy alone will not be sufficient to deconstruct the Greenhouse effects, it demands climate advocacy alongside to save the Planet Earth.

## **RIGHT TO CLEAN WATER: A NATIONAL AND INTERNATIONAL PERSPECTIVES**

Prof. (Dr.) J. Mahalakshmi

*Professor of Law, Head, Department of Labour Law and Administrative Law, The Tamil Nadu Dr. Ambedkar Law University, Chennai, Email: drmaha.sai@gmail.com*

### **Abstract**

*The survival of any forms of life on earth is possible only because of water. The natural environment of an area depends upon the quality of water available in that place. Once water was considered as an inexhaustible gift of God and Sacred for every religion. Hence the sources of drinking water like rivers, ponds, lakes, tanks and other water bodies were preserved cautiously. Due to increase in population, industrialization and urbanization, there is an increasing demand for water in day-to-day life. Moreover, discharging of large volumes of effluents beyond the assimilating capacity of earth has resulted in polluting or contaminating the sources of water. There is ever increasing menace of water pollution not only in India but every nation in the globe. Therefore, right to clean water is a serious global concern. The world trade organization has stated that inadequate access to clean water for consumption will result in health risk along with a threat of resulting in blindness. Lack of adequate supply to potable water is denial of right to protection to life itself. Access to clean water is a priority issue in United Nations Millennium Development Goals as well as World Summit on Sustainable Development (2002). Therefore, this research paper makes an attempt to analyse international as well as national obligations of sustainable conservation of water sources.*

**Keywords:** Industrialization, Urbanization, Millennium Development Goals, Clean Water, Sustainable Conservation.

### **Introduction**

The presence of water makes earth unique among other planet because without water life is impossible on earth. From cradle to grave the need for wholesome water for life is an undying need<sup>1</sup>. The report on Global Risk 2016 issued by the World Economic Forum stated that water has been identified as one of the top three concerns in the context of global risks. The World Resource Institute (2011) states that consumption of water is growing at twice the pace of

---

<sup>1</sup> COSMAS EMEZIEM, THE HUMAN RIGHT TO CLEAN WATER AND SANITATION- A PERSPECTIVE FROM NIGERIA in Edn JULIEN CHAISSE, CHARTING THE WATER REGULATORY FUTURE: ISSUES, CHALLENGES AND DIRECTIONS 195 (2017)

population growth. Therefore, the 2030 agenda sets out the goal for ensuring availability as well as sustainability in water management and sanitation for everyone.

### **Concept of water pollution**

Water is the oldest form of environmental pollution. Generally, water pollution means departure from a normal state. water pollution is such a change involving destruction in the quality of water by contamination. This affects the aquatic ecosystem adversely in terms of living organisms, oxygen content, the presence of toxins, etc.<sup>2</sup> Section 2(e) of *Water (Prevention and Control of Pollution) Act, 1974* defines water pollution as “pollution means any contamination of water or alteration of physical, chemical and biological properties of water or disposing of any sewage waste in water which is likely to cause nuisance or renders such water to be harmful to public health or safety or to domestic, industrial or other legitimate use or harmful to the life and health of the animals and aquatic plants”.

### **Sources polluting water**

There are various sources to pollute water in which the major sources are industrial effluents, agricultural run-off and municipal sewage.

### **Discharge of Effluents from Industries**

Industrial waste or effluents of different industries that come along with waste waters pollute most of the rivers in India and fresh water streams in a serious manner<sup>3</sup>. The effluents which are in the liquid form are discharged in largest volume from almost all industries at certain stage during the manufacturing process<sup>4</sup>. Further these effluents which contain different pollutants released from various sources get distributed in the aquatic environment through number of ways. The pollutants released from the industrial waste include garbage, sewage sludge, solid refuse of mine, mine tailings on land, chemicals, paints, etc. Industries like Petro-chemical companies, factories manufacturing fertilizers, pulp, oil refineries, paper, textile, sugar and steel mills, tanneries and many other organic and inorganic toxicant, discharges waste these are toxic to living organism<sup>5</sup>.

---

<sup>2</sup> KAILASH THAKUR, ENVIRONMENTAL PROTECTION LAW AND POLICY IN INDIA 26 (Deep and Deep Publication 1997).

<sup>3</sup> 2 G. R. CHATTWAL, ENCYCLOPEDIA OF ENVIRONMENTAL POLLUTION 298 (Anmol Publications Pvt. Ltd. 1996).

<sup>4</sup> KAILASH THAKUR, ENVIRONMENTAL PROTECTION LAW AND POLICY IN INDIA 28 (Deep and Deep Publication 1997).

<sup>5</sup> 2 G. R. CHATTWAL, ENCYCLOPEDIA OF ENVIRONMENTAL POLLUTION 299 (Anmol Publications Pvt. Ltd. 1996).

### **Agricultural waste**

It includes farm animal waste, fertilizers and pesticides, etc. Farm animal waste are organic in nature which contains mainly of excreta, urine, manure and slurry. When those contaminants enter into rivers or streams, they increase the biological oxygen demand of water. Further waste like nitrogen, phosphate add to the eutrophication of lakes and water bodies which produces stench in the water bodies.

### **Municipal or Domestic pollution**

The impurities from domestic as well as municipal waste constitute major cause for water pollution. These pollutants generated from small sources and spread over a fairly wide area. Mostly these wastes were transmitted by sewers to a municipal waste plant. When domestic sewage untreated, it carries water borne waste of the community. The untreated sewage contains the following polluting agents:

- Concentration of bacterial, viral and parasitical contaminants at a higher level makes the water unconsumable.
- Constituents that place a high bio-chemical oxygen demand like dissolved organic and suspended carbohydrates, fats, proteins and oils, etc., on decomposition cause depletion of oxygen from water.
- High concentration of phosphorous and nitrogen compound which enrich the receiving waters with nutrients speed up eutrophication.
- Floating of organic and inorganic constituents creates serious problems and hinders with self-purification process.

### **Adverse effects of water pollution**

Pollution is the effect of an undesirable or deleterious changes in our surroundings. These changes seriously influence the human life by interfering in living conditions and has the ability to create harmful effects on cultural assets, or life cycles of the plant and animals that inhabit in a given system. Bacterial contamination has been the most common water borne disease hazard. This is due to the presence of bacterial and other types of organisms which generate typhoid fever, cholera and gastroenteritis causing wide spread illness and death.

### **Water crisis**

Every country has started realizing that the water available to the living beings is not only limited but is fixed. There is an imperative necessity to identify some appropriate strategy to provide solution to cater for scarcity of water because for the enjoyment of human rights, it is essential to have right to access to potable water. The growing demand for water in various sectors namely industry, agriculture, drinking water and to maintain sustainability of resource base is a major challenge. In addition to that pollution also creates a shortage of drinking water and often people organise processions in protest the industrial units which causes pollution. Further, agitation for water scarcity become a common feature. For example, farmers in may arid and semi-arid areas protest in rural areas against the transportation of ground water to urban areas as they believe that it may result in ground water depletion<sup>6</sup>. Studies such as Report of the High-Level National Commission for Integrated Water Resources Development Plan, Ministry of Water Resources, Indian Water Vision, etc. has emphasized about the water demand<sup>7</sup>.

The problem of scarcity of water is aggravated due to the mismanagement poses serious challenge among the multiple uses in different areas. The World Bank (1992) has defined governance as “the manner in which power is exercised in the management of a Country’s economic and social resources of development”.

Governance, as per United Nations Development Programme (UNDP) means “the exercise of economic, political and administrative authority to manage a Country’s affairs at all levels”. It should be understood that governance of water should start with evaluating the crisis level and water resources development. Then the next step of governance is to water resources management.

To meet the challenges of crisis, the strategies have been devised in the investment in water storage, control and distribution in addition to seasonal rainfall and river flows. Water situation across the globe has become very serious in threatening food security. Further, ability to meet the clean drinking water has become a challenge and an issue related governance of water. Therefore, water has now recognized value as it is commodified which can be bought and sold. (For ex. supply of water and the bottled water trade).

---

<sup>6</sup> VISWA BALLABH, GOVERNANCE OF WATER: ISSUES AND CHALLENGES in Ed. VISHWA BALLABH, GOVERNANCE OF WATER: INSTITUTIONAL ALTERNATIVES AND POLITICAL ECONOMY 5 (Sage Publications 2008).

<sup>7</sup> RAMASAMY R IYER, WATER GOVERNANCE, POLITICS, POLICY in Ed. VISHWA BALLABH, GOVERNANCE OF WATER: INSTITUTIONAL ALTERNATIVES AND POLITICAL ECONOMY 23-24 (Sage Publications 2008).

### **Water governance: issues and concerns**

The growing scarcity as well as the failure of the institutional arrangements in capturing, allocating and distributions generate to produce the desire result combine to generate water crises. Equitable water distribution is a herculean task due to scarce water where in which requirements exceed supply, the excess supply is directed to the people who can afford. In case of poorest section of the society including marginal farmers and users of water for domestic purposes whether in rural or in urban areas, there is a struggle to acquire water and fulfill the requirements. But they are left out with no option to control over scarce water.

### **International agenda for water conservation**

Access to quality water for drinking is being provided generally in different stages in various national systems. Public health hazards and costs to the economy are due to inadequate access to clean drinking water. Sustaining safe sources of clean drinking water is a major challenge to meet the demand for expansion of water services in the midst of growing urbanization and industrialization and intensification of agriculture. The debate of whether water constitutes human rights has been responded by United Nations Assembly through resolution 64/292 that “the right to safe and clean drinking water and sanitation as a human right which is essential for the full enjoyment of life and all human rights”. The Water Report of UNESCO in the executive summary it was stated as follows:

*“Water and energy supply and provision are interdependent choices made in one domain impact the other, for better or for verse. The steps to be taken by the policy makers, planners and practitioners is to overcome the obstacles which exist between their respective domains. For more efficient as well as cost effective provisions of services relating to water and energy could be possible by the lead of innovative and pragmatic national policies ..... water and energy are both at the heart of sustainable development and need to be recognized as such”.*

The United Nations Conference organised in Mardel Plata, Argentina in 1977 first expressed the importance of access and quality of water. Article 6, para 1 of the 1996 International Covenant on Civil and Political Rights as well as Article 12, para 2 of the 1996 International Covenant on Economic, Social and Cultural Rights have implicitly mentioned about water in the context that ‘right to life’ comprises water within the liberal interpretation. By emphasizing the specific water-quality requirements i.e., importance of adequate access to clean drinking water, the Conventions relating to Elimination on All Forms of Discrimination against

Women<sup>8</sup>, the Convention on the Rights of the Child<sup>9</sup>, the Protocol on Water and Health<sup>10</sup> and the Convention on the protection of Use of Transboundary water Courses and International lakes<sup>11</sup> have been explicitly incorporated.

The need for protection and the quality of supply of fresh water was marked in ‘Agenda 21’. Article 18, Para 2 of Agenda 21 stated as follows:

*“Water is needed in all aspects of life. The general objective is to supply adequate water of good quality which is to be maintained for the entire population of this planet and to make it certain while preserving the hydrological, biological and chemical functions of ecosystems, adapting human activities with the capacity limits of nature and combating vectors of water related diseases”.*

The General Comment 15 in ‘United Nations Committee on Economic, Social and Cultural Rights’ explicitly recognises the right to water as human right under Article 11 and 12. Further, General Comment 15 under para 1 recognises water as a “limited natural source and a public good fundamental for life and health”. The definition of human right entitles “everyone to sufficient, safe, acceptable, physically accessible, affordable water both for personal and domestic use”. In ‘para 2 of General Comment 15’, it has been highlighted the importance of ‘adequate amount of safe water for primary use for consumption relating to cooking, personal and domestic hygienic requirements. This is important for the purpose of prevention of death due to dehydration and also to minimize the risk of contracting diseases due to unclean water. Further, it is also highlighted in Article 11 and 12 of ICESCR that water resources are essential and required to prevent starvation and diseases in order to fulfil the core objectives of covenant rights. Since it fulfils the needs as pre-requisites for realization of every other human right for the decent existence of human being, it is considered as human rights. Therefore, the human need is at the heart of human right of water<sup>12</sup>.

### **Sustainable Development Goals**

The main aim of ‘Sustainable Development Goals’ relating to water is the access and management of water and also the ability to meet the challenges for the future of water

---

<sup>8</sup> The Convention was adopted in the year 1979.

<sup>9</sup> The Convention was adopted in the year 1992.

<sup>10</sup> The Convention was adopted in the year 1999.

<sup>11</sup> The Convention was adopted in the year 1992.

<sup>12</sup> VIRGINIA J. M. JASSIN, REGULATION AND PROTECTION OF WATER IN INTERNATIONAL LAW: TERRESTRIAL AND MARINE PERSPECTIVES in Ed. JULIEN CHAISSE, CHARITY THE WATER REGULATORY FUTURE: ISSUES CHALLENGES AND DIRECTIONS (U.K. Edward Elgar 2017).

governance. It is otherwise called as ‘global goals’ which is one of the major outcomes of ‘Rio+20 conference’ and was adopted by UN in 2015 as a Universal call for active participation in the eradication of poverty in order to ensure peace and prosperity across the globe. In the list of 17 goals clean water and sanitation falls under Goal 6. The purpose of this goal is ‘to ensure availability and sustainable water management and sanitation for all’. UNICEF reported that in 2017, 2.2 billion persons were suffering till date without safely managed drinking water<sup>13</sup>. This goal addresses the problems relating to water resources in terms of quality and sustainability, in addition to clean drinking water and sanitation. Since, these are all critical issues for the survival of people on earth, the 2030 Agenda recognizes the centrality of water resources to sustainable development. This is because the improvement in the quality of drinking water, sanitation and hygiene influences the progress in areas such as health, education and poverty reduction. The ultimate goal to achieve by 2030 is “to ensure universal and equitable access to safe and affordable drinking water”. Specifically, the goal is to end up open defecation by paying attention to vulnerable situations faced by the women and girls and also to achieve the protection and restoration of water-related ecosystem along with mountains, forests, wet lands, rivers, aquifers and lakes. For the implementation of programs and activities relating to ‘water-harvesting, desalination, water-efficiency, waste-water treatment, recycling and reuse technology’, the goal emphasis to achieve the expansion and support of international cooperation and capacity building. Goal is also included for the support and strengthening the active participation of the communities at local level for improving water and sanitation management. Water is inextricably linked to the development of all nations but there are lots of pressures on water resources as the demand for water globally is expected increase 50% by 2030. In case of agriculture activities, it is expected to experience 70% increases in demand of 2050<sup>14</sup>. Therefore, effective solutions are needed to meet out the challenges.

### **Target fixed by Millennium Development Goals**

These Goals have fixed specific target to measure 8 international development goals. By 2015, these Goals focused to achieve the following:

1. Minimise the population who suffer from hunger and thereby eliminating poverty;
2. Focussing on every child in getting primary education at universal level;

---

<sup>13</sup> SUSTAINABLE DEVELOPMENT GOALS, <https://sdgs.un.org/goals> (last visited Oct. 21, 2022).

<sup>14</sup> FOOD AND AGRICULTURE ORGANISATION OF THE UN WATER SCARCITY-ONE OF THE GREATEST CHALLENGES OF OUR TIME, <https://www.fao.org>fao-stories>article> (last visited Oct. 21, 2022).

3. Addressing on the elimination of Gender discrimination and track the progress of empowerment of women in order to ensure equality among men and women;
4. Minimising the mortality rate among children by ensuring food security and nutrition;
5. Reducing the maternal mortality rate and improving reproductive health of women;
6. Fighting against the risk of being infected by HIV or AIDS and protecting people vulnerable to malaria and other infectious diseases;
7. Creating sustainable environment in order to reduce the damage to the environment;
8. Achieving the co-operation of working together internationally by developing effective global partnership<sup>15</sup>.

In target 7A while ensuring the sustainability of environment, the target is to integrate the principles relating to sustainable development in the policies and programmes of the country in order to reverse the loss of environmental resources. Target 7B deals with reduction in biodiversity loss and target 7C aims to achieve a sustainable access to an improved water source in rural and urban areas as well as access to an enhanced sanitation.

### **Right to clean water: an Indian perspective**

Access to clean water is recognized as a basic human right. In India, right to water is not enumerated justiciable right, but it is a derivate of constitutional and fundamental right to life. In plethora of cases, the apex Court of India has affirmed the justifiability of the right to water.

### **Constitutional provisions and legal system in the protection of water**

The impact of Stockholm conference in 1972 has brought out 42<sup>nd</sup> Amendment to the Constitution of India to have serious concern for living creatures and the protection of environment. It has issued a direction to both state and citizen for the conservation of natural resources by inserting Article 48A into the Indian Constitution to protect and promote environment. This is also to protect the flora and fauna of the Country. Similarly, by the same amendment, Article 51A(g) was inserted in order to impose a duty on “every citizen of India to protect and improve the natural environment” including forest, lakes, rivers and wildlife. There is no provision in Part III of the Constitution of India regarding right to access to clean and safe drinking water. It is solely on the wider interpretation of Article 21 of the Constitution

---

<sup>15</sup> THE WORLD BANK, <https://www5.worldbank.org/mdgs/> (last visited Oct. 23, 2022).

of India by the Indian judiciary, right to safe drinking water acquired the status of fundamental right<sup>16</sup>.

### **Water (Prevention and Control of Pollution) Act, 1974**

This was the first statute in India to control pollution of water. The aim of the Act is not only to control and prevent water pollution but also to maintain and restoring the wholesomeness of water. The Act establishes 'Central and State Pollution Control Board' for conferring on and assigning powers for the administration of the Act.

The Act also provides State Board has the authority to limit the territorial jurisdiction of any order issued by State Board in matters connected to the prevention and control of water pollution<sup>17</sup>. This implies that the State Board's instructions will only apply in regions plagued by contamination of water. The State Board has to decide the areas which are to be designated to be water contaminated and which are not.

Section 20 of the Act empowers the State Board to give directions to any person requiring him to give information about abstraction of water from any stream or well. The State Board may make surveys of any area for gauging and keeping records of volume or flow of any stream or well in that area. Section 23 of the Act lays down that persons empowered by the State Board shall have the power to enter any place for the purpose of inspection and also for examination of any plant, record, register, document or other material object.

Where any person defaults in complying with the directions given under various sections of the Act shall lead to various kinds of punishments as prescribed under the Act itself. Particularly, section 42 specifies penalties for several types of acts, such as removing, destroying, or removing any notice posted by the board.

### **Rights of Riparian Owner under Indian Easements Act 1882**

The Act deals with the rights of a riparian owner to unpolluted water. The Act recognises the right of riparian owner to use the water of the natural streams which closed past his land equally with other riparian owners. He has the right to use and consume natural streams water for drinking as well as for watering his cattle and sheep. The Act also lays down that there is a right to continued flow of water of natural stream in its natural condition without any distraction or unreasonable pollution for every riparian owner<sup>18</sup>.

---

<sup>16</sup> A.P. Pollution Control Board v. M.V. Naidu, AIR 1999 SC 812.

<sup>17</sup> Water (Prevention and Control of Pollution) Act, 1974, s 19, No.6, Acts of Parliament, 1974 (India).

<sup>18</sup> The Indian Easement Act, 1882, s 7, No. 5, Acts of Parliament, 1882 (India).

### **The Shore Nuisances (Bombay and Kolaba) Act, 1853**

The earliest statute on control of pollution in India with wider power has been given to collectors of land revenue. Board has to issue notice to an affecting party requiring the removal of nuisance anywhere below the high-water mark. The legislation that's been implemented for big sea in the islands in order to permit the clearance of nuisances, obstacles, including encroachments underneath high-water mark in harbour, either upon or near the beaches of islands in Mumbai (previously Bombay) throughout former British India.

### **Preventing Of Water Pollution under IPC 1860**

The provisions relating to water pollution has been dealt with control of public health and safety under section 269,277 and 290 of the code which is used to keep the environment clean. Section 268-294-A of Chapter XIV of the IPC deals with offences relating to safety, public health, and so on. These laws prioritise public health and make any conduct that pollutes the environment or endangers an individual's life illegal.

Section 268 describes the term "public nuisance" as follows:

1. Any individual who commits an illegal act or omission is responsible for the crime.
2. A 'common damage' or risk must have resulted from such a conduct. Inconvenience to the public or to the individuals in the surrounding area, or other an act must infringe someone's public right.
3. A frequent annoyance is not justified on the grounds that it provides some benefit or convenience.

Section 277 of the IPC says that anybody who intentionally corrupts or fouls the water of a public spring or reservoir, rendering it unsuitable for ordinary public use, is punished by imprisonment extending up to three months or a fine up to Rs. 1000, or both.

Furthermore, Section 290 renders the violation of public nuisance subject by a fine of up to Rs. 200. As a result, every act or omission that pollutes the environment and causes injury to any person is punishable by law it also considers noise pollution a crime as well.

### **Indian Fisheries Act, 1987**

This act prohibits poisoning of water and the consequent distinct of fish. The act under section 5 provides “if any person put poison, lime or noxious material into any water with intention to

anybody catch or destroy any fish shall be punished with imprisonment of 2 months or fine of Rs. 200.”

### **Forest Act, 1927**

In India the Forest Act, 1927 where subsection (1) of sec 26 provides that if any person who is in prohibited in any forest activity that has been carried out by him for which the rules of state government under section 32(f) relating to poisoning of water in forest , poisonous water of forest area makes it punishable.

### **Factories Act, 1947**

Specific provisions are provided with regard to factors and effluents section 12(2) provided effective management made by every factors more effluents discharge. The act empowers state government to make rules prescribes arranging to be made and requite it.

### **Water (Prevention and Control of Pollution) Cess Act, 1977**

The Act empowered the Central Government for imposing CESS on water consumed by listed industries. Though there is no mechanism under the Act for control and prevention of water pollution, it serves as an instrument for implementation of the Act in an effective manner. This also serves as an economic incentive for controlling pollution by providing adequate funds to the State Boards for its effective functioning. The CESS money credited to the consolidated fund of India will later be disbursed by the Central Government to the State Board<sup>19</sup>. The Act prescribes the penalty of imprisonment extending to 6 months or/and fine extending to Rs. 1000/- or both for submitting false assessment report<sup>20</sup>.

### **Conclusion**

Humans have created wonderful truths and equipment for enhancing the quality and comfortable of their lives. But it has resulted in damage to the human environment as well as human beings itself. The main causes responsible for deterioration of the environment is due to haphazard urbanization, increasing industrial activities, pesticides, agricultural practices and enormous uses of water for multi-purposes. This has ended up in water pollution, food insecurity, difficulties in water management. The UN Water Report in 2016, has cautioned about the severe water scarcity through which one-third of the global population could suffer in 2025. The International Agenda for Conservation of Water have focused that access to clean

---

<sup>19</sup> The Water (Prevention and Control of Pollution) CESS Act, 1977, s 8, No. 36, Acts of Parliament, 1977 (India).

<sup>20</sup> *Ibid.* Section 14.

water as a priority issue in development which influences the other developments for human being in ensuring quality life. Man's survival depends on the conservation of nature in which water is fundamental resources even for existence itself. From the above analysis it is clear that one of the major and common issues across the globe is rights of the people to safe drinking water. There is a growing recognition of water resources as an integral part of environmental protection and management. It is a high time for achieving the goal of equitable and universal access to safe, adequate and affordable drinking water. The international instruments committed to take efforts for ensuring clean drinking water as well as for protection and enhancement of human environment. This is possible when all nations co-operate and enhance the participation in water resources management.

## **FUTURE OF BLOCK-CHAIN TECHNOLOGY: PERCEPTION OF NEW INVESTORS IN BHUBANESWAR**

Dr. Snigdha Sarkar<sup>1</sup> & Dr. Arpita Mitra<sup>2</sup>

<sup>1</sup>*Assistant Professor, KIIT School of Law, Bhubaneswar, India, Email: snigdha.sarkar@kls.ac.in*

<sup>2</sup>*Associate Professor, KIIT School of Law, Bhubaneswar, India, Email: arpitaamitra@gmail.com*

### **Abstract**

*The current conversion of physical to digital world of transaction is the main reason behind the development or inception of Block-chain technology (BCT). It is having the force to change the way of business and transform Indian economy. Maximum current research related to block-chain is concentrating on its applicability on cryptocurrencies like bit-coin and very few are concentrating on the application of BCT on other field. BCT is popular currently because of its own unique features and most important one is it is not possible to imitate. The current study is revealing the current status as well as future scope of BCT with investor's opinion on investment in cryptocurrency. For this the author has taken into consideration different literature to know the current status with future prospect of BCT and the study has also revealed the investor's view point with respect to investing in cryptocurrencies. For this the author has taken into consideration only the response of potential or new investors of Bhubaneswar (Odisha, India) to know the level of understanding and acceptance of digital currency. Addition to this the study is also focusing on the future of Block-chain Technology (BCT) in coming days in India.*

**Keywords:** Digital transaction, Block-chain technology, Cryptocurrency, Bit coin

### **Introduction**

In recent digital phase of peoples' life Block chain has been getting higher attention both in research and practice. BCT is nothing but another type of data which is stored electronically on computer system. The structure of these data base are also unique and difficult or nearly impossible to imitate. These are typically structured in table form and allow easier searching as well as filtering for information required on specific concern. This is also known as

distributed ledger system which enables sharing of a not mutable ledger among the participants of the network<sup>1</sup>.

This technology can be applicable or used in various field and the uniqueness is that it cannot be imitable, changed, forgery is not possible, data security is high and human errors are nearly absent (Alexa Böckel, Anne-Katrin Nuzum& Ilka Weissbrod , 2021). The other positive point is that it can applicable for almost in both tangible and non tangible assets. Where tangible assets basically include cash, house, land, car, investment and intangible assets includes intellectual property, copy rights, patents and banding. By analysing the security level of block chain technique it would not be wrong to say that this is going to be the future of all most all value item in virtual mode. The tracking and trading with block chain technology is much easier and most importantly it reduces the concern of risk and costs involved in such transaction in physical or traditional mode<sup>2</sup>.

### **Objectives of the Study**

Here the author is aiming to find out the answer of the following questions by taking into consideration both primary and secondary data.

- i. To find out the Future of Block-chain Technology in Trading
- ii. To identify the Perception of New Investors in Bhubaneswar

### **Literature Review and Research Background**

The current part of the work is concentrating on two different concepts like investors perception regarding cryptocurrencies and future of the base technology used in cryptography i.e. BCT.<sup>3</sup>Various litterateurs are there to explain the working and use of BCT in different field starting from agriculture to health sector. Vast literature is found in different journals regarding the current use and future of BCT in various fields. The details of some literature and their findings are listed below to draw a valid conclusion by utilizing them<sup>4</sup>. The paper discusses the potential benefits and drawbacks of BCT again another paper by Whitaker explores the implication of BCT in three regards like *“the blurring of the for-profit / non-profit distinction, changes in the ownership structure of art, and potential for new structures of public and*

---

<sup>1</sup> Adam Hayes , Block chain explained,(5 March, 2022), <https://www.investopedia.com/terms/b/blockchain.asp>, visited on 12/06/2022 at 7.36 am.

<sup>2</sup> IBM,What is block chain? <https://www.ibm.com/in-en/topics/what-is-blockchain>, visited on 12/06/2022 at 7.39 am.

<sup>3</sup><https://www.forbes.com/advisor/in/investing/what-is-cryptocurrency-and-how-does-it-work/>, visited on 15,06,2022 at 7.45pm.

<sup>4</sup>Dingli Xi, et al, Investigating the Investment Behaviors in Cryptocurrency Networks, (2021)

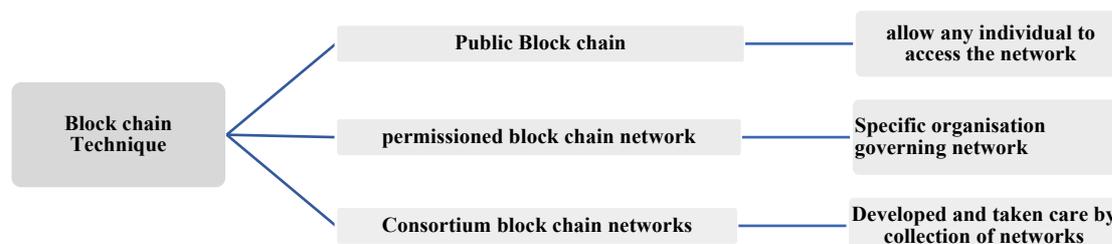
*private support and related policy changes.*” with a discussion of history, primer and taxonomy of the technology. In addition to this the study of Min Xu, Xingtong Chen and Gang Kou reveals the facts related to BCT on subject areas like business and economics. This work is a systematic review of BCT articles recovered from the Web of Science service, it explored the top-cited articles, most productive countries, and most common keywords. It conducted cluster analysis and pointed out the succeeding research content like *“economic benefit,” “block chain technology,” “initial coin offerings,” “fin tech revolution,” and “sharing economy”*.

Another study explains BCT and its characteristics with challenges. It presents existing studies on BCT as well as discusses different types of research and how these research studies can be useful both for industry and academic purposes. The paper of Yanling Chang et.al., provides a timely and holistic overview of the state of the art, challenges, gaps and opportunities in global supply chain and operation of trade for both private and governmental agencies this has done through blending a wide range of resources from *“business leaders, global international organisations, leading supply chain consulting firms, research articles, trade magazines and conferences”*. The work of literature of paper of Anton Klarin, 2020, depicts the use and importance of BCT in journals to protect misconduct in academic research. The current paper involves SLR i.e. Systematic literature review as well as qualitative analysis that covers 57 different literature and depicted 3 key findings like; *“1) a clear terminology of block chain types, their technical properties and benefits are lacking in research, 2) trust and verification are major potential benefits but a challenge to create, and 3) a closer examination of possible benefits and challenges of block chain technologies for the circular economy with its links to sustainable development is crucial.”* The findings of this work on BCT reveals a holistic picture of BCT research, which helps to clear the base for future direction of research as well as provides implications for both academic and business practice. This research paper highlights the need for a standardized approach built on a public block chain to promote faster adoption and acceptance.

Types of block chain:

There are various approaches of block chain technique exist for the business world to use in their respective world. Therefore to know the technique in a clear cut manner one should know about its different approaches like<sup>5</sup>;

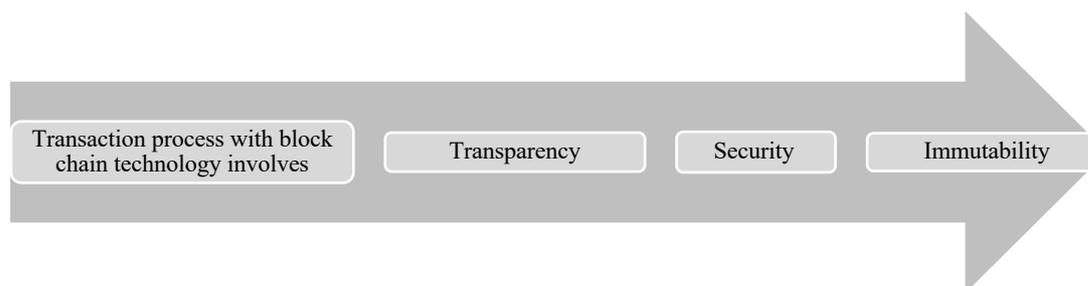
Graph-1



The people as well as organization both are somehow not correctly aware about the use of this technique in their respective field of work. For this reason the block chain technique still now to many of us in personal field as well many of the industries in their functional form. With the increasing publication and research the familiarity as well as the popularity of the concept is growing day by day recently. This popularity is also credited to its successful adoption and application across different sectors around the world. The most important benefit is the perfect documentation with all transaction data or money<sup>6</sup>.

The transaction process involved with block chain technology bears three important properties like;

Graph-2



---

<sup>5</sup> Chistine Parizo, What are the four different types of block chain technology, (28 May, 2021) <https://www.techtarget.com/searchcio/feature/What-are-the-4-different-types-of-blockchain-technology>, visited on 12/06/2022 at 7.49 am.

<sup>6</sup> Macro Lansity & Karim R. Lakhani,(2017), The truth about block-chain, <https://hbr.org/2017/01/the-truth-about-blockchain>, visited on 12/06/2022 at 7.50 am.

Still there is doubt exist regarding its future inclusion in all sectors as well as investment market. So before going to analyse Future prospects of block chain one should know the current popularity and growth rate of the said technology. Therefore to draw a conclusion is possible with a detailed knowledge about the block chain technique as well as future prediction also may possible<sup>7</sup>. So the current status of analysis of BCT like, definition, working, key traits are required to predict about future expectation and growth of the BCT in coming days<sup>8</sup>. By the study of success rate of BCT application on different industries one can draw a strong overview of the significance and practical applicability of the same. After gathering all these required information then the author can turn the attention towards block chain future opportunities and development<sup>9</sup>.

Strongly escalated interest in block chain can be credited to recent days, specifically due to maximum use of digital mode than physical mode and the emergence of covid-19 pandemic. Its demand is increasing day by day due to its unique features. The demand for BCT skill raised up to 2000% in the period ranges from 2017 to 2020. Indicating that BCT as a preferred proficiency over all other traditional techniques. Therefore it is not wrong to convey that BCT is the future of all most all governing bodies<sup>10</sup>. BCT is also very much famous for its use in digital currency like bit coins and the technique is famous as cryptography. This is the main reason for rising importance of digital currency in modern era. There is a fine line of difference in between digital currency and cryptocurrencies where all cryptocurrencies are digital but the reverse is not true<sup>11</sup>. The most important difference in between two is where ***“crypto currencies are managed by a computer algorithm and digital currencies are backed by an authority.”***<sup>12</sup>

The BCT is not only applying to currencies but also to assets, equipment, warranties, artwork, and health care records. The below chart depicts the features of BCT

---

<sup>7</sup> Decaskill, the future of block chain technology, <https://decaskills.com/the-future-of-blockchain-technology/>, visited on 12/06/2022 at 7.56 am.

<sup>8</sup> Ibid.

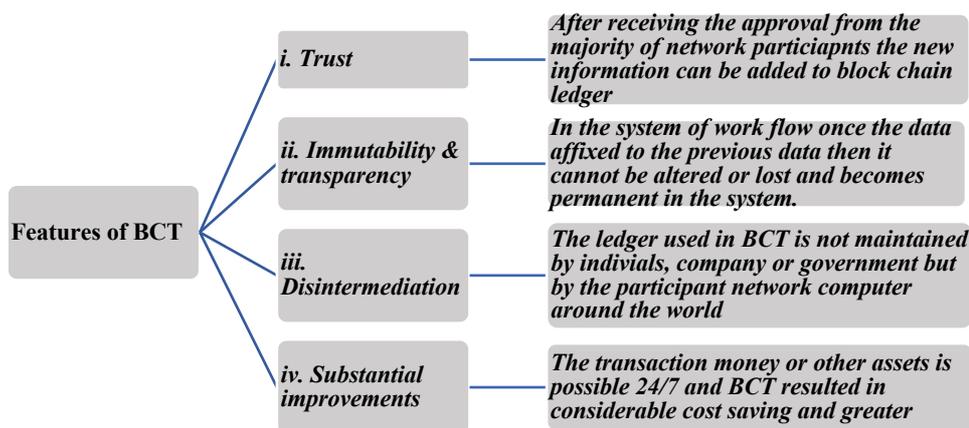
<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Nathan Reiff & Erika Rasure, Forget bit coin block chain is the future, (July 26, 2021), <https://www.investopedia.com/tech/forget-bitcoin-blockchain-future/> visited on 12/06/2022 at 8.03 am.

<sup>12</sup><https://timesofindia.indiatimes.com/business/india-business/digital-currency-vs-cryptocurrency-what-the-row-is-all-about/articleshow/87907344.cms>, visited on 13/06/2022 at 1.47pm.

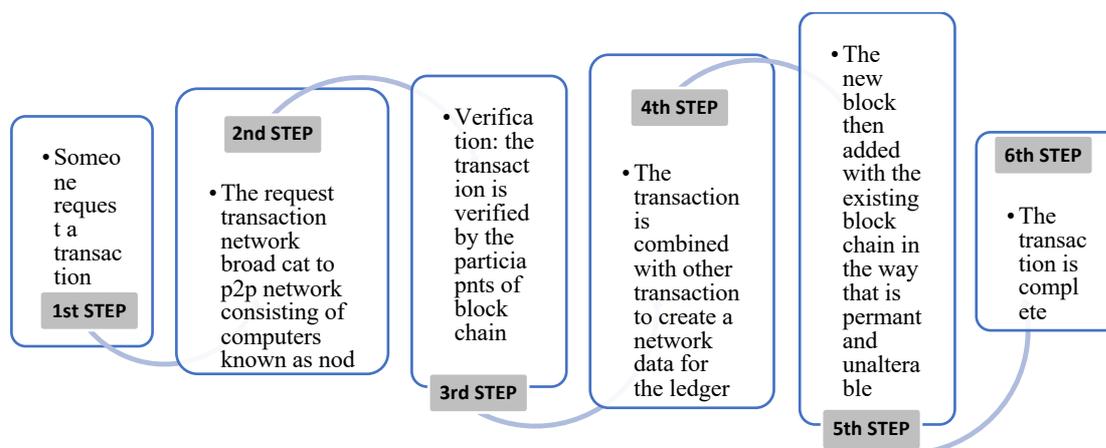
Graph-3



Recently BCT got more popularity among investors and financial institutions because of its successful adoption for cryptocurrencies like bitcoin. It has countless advantages as a distributive digital ledger with which the technology can protect all records of quantitative as well as qualitative information and financial transaction between any two parties in a most secured, not imitable and transparent mode.<sup>13</sup> During last year BCT started to acquire public attention. Experts from different fields on diverse research paper viewed that BCT will be implemented for various industries and expect the future BCT is to transform the traditional business processes. On the other hand if one analyse the pros and cons of BCT reveals that it is not as easy to do as it seems.<sup>14</sup>

**Working Structure of BCT:** The following chart depicts the working structure of BCT and its secure setting based on ledger system.

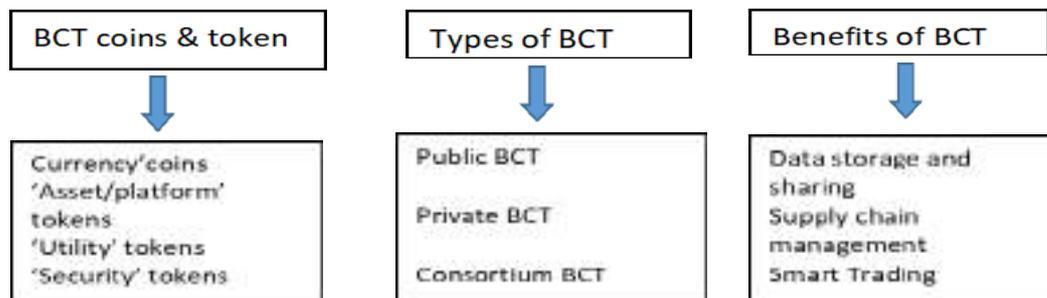
Graph-4



<sup>13</sup> Supra note 1  
<sup>14</sup> Supra note 4

**BCT in coins and token:** BCT is used not directly with legal tender but with special coins and token which are not physically present but virtually in circulation and used as digital currency. Therefore coins and tokens are two important terms used to explain the unit of cryptocurrency value. These are used to transfer value as a medium of payment similar to money (Michael Spearpoint, 2017). These virtual currencies which are backed up by BCT or Cryptography can be categorized into: *“i) Currency in the form of Coins:* it permits right to another digital currency to holders. *ii) Asset or platform in the form of token:* which grant right to a promised future cash flow linked to an underlying business. *iii) Utility in the form of token:* It grants the right to access a product or service that startup provides usually at some future point. *iv) Security in the form of token:* it confers rights to an equity stake in a business and is used to invest or trade on the market.”

Graph-5



**Characteristics of BCT:** The BCT is famous and getting popularity because of the listed unique characteristics or features like *“distributed ledger, decentralized data management, data security, transparency and integrity, anti-tampering and anti-forgery, high efficiency, low cost, programmable features that increase flexibility and reliability and no risk of a centralized database failure.”* **Challenges at technical level:** *Scalability of implementation, Performance of block chain network, Interoperability & Data localisation.*

**The Future of Block-chain Technology in Trading:** The active BCT network continues to bring real trans-formative change to a number of industries. In this regard the IBM BCT team predicted the following trends in the near future, *“i. Prediction of emergence of realistic governing body: ii. Prediction of advancement in realistic inter-connectivity: iii. Prediction of union of close technologies with BCT to create next level: iv. Prediction of introduction of Validation tools which will start to combat fallacious data sources. v. Prediction of expansion of CBDC i.e. central bank digital currencies into whole sale and retail.vi. standardized approach should be built on a public block chain to promote faster adoption*

and acceptance.”

### Methodology used in the Study

The current study aims to find out the investors view and their confidence level with perception regarding the future of digital currency. As this is an emerging and very contemporary area for the investors the researcher intends to analyse the understanding as well as applicability of the digital currency in the investment field. Therefore this is an analytical study based on non probability sampling technique. So the data has collected through questionnaire prepared in Google form. The universe of the study is the people of Bhubaneswar who are having interest in investment. Here the researcher has collected the response of 110 respondent aged above 18 years. Another criteria for eligibility as respondent of this study is that the person must have interest and basic knowledge towards investment and investing techniques. Therefore the technique is convenient sampling. For the current study both primary and secondary data are used. Primary data has been collected through Google form from the respondent who is basically inclined to-words investment. The government, RBI, books, journals, websites, online articles, new clips etc. reports are also used as secondary data.

### Empirical Findings on the Perception of New Investors in Bhubaneswar

The data has collected from residents of Bhubaneswar through Google from where 110 respondents have given their view. Among 110 respondent 79% were male and rest are female. Again 84% respondents are within 18 to 58 years of age and 11% are above 58 years of age. Maximum i.e. 81% respondent are service holder and income of maximum respondent i.e. 89% ranges in between 1 to 15 lakhs.

Table-1

Demography of the respondent					
Age in years		Income in Lakh		Occupation	Sex
18-38	45%	1to 10	56%	Service-81%	Male -79%
39-58	39%	10 to 15	33%	Business-18%	Female -21%
58 & above	16%	15 & above	11%	Others-1%	Others-nil

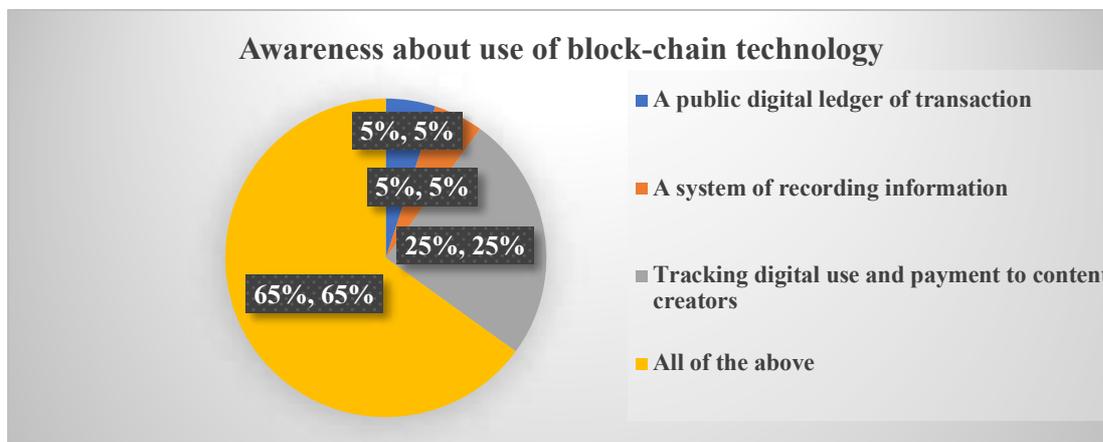
From the analysis of the respondent response the author has pointed out the blow findings;

**Familiarity of people with block-chain technology:** Each and every technology has been considered fruitful if the new aspiring candidates would know about it. But as per the survey

the author has found that 58% people have only heard about it and only 15% people know how it works and 18% still do not familiar with the concept which meant that people have only heard about the word “Block-chain” but never know it deeply. This is the reason why investors are reluctant to invest in crypto currencies.

**Awareness about use of block-chain technology:** Maximum of the investors are relate BCT with Cryptocurrencies like Bitcoin, etherum etc. which has been shown in a survey as 65% knows about the advantages of Block-chain technology and they know that it will prosper further.

Graph-6



**Future perception of respondent about block-chain technology:** As 52% have perception that this technology will improve in the upcoming time and will be the more profitable areas, the investors and upcoming investors have also shifted its investment towards the more profit giving areas. Like 49 % people we are also the same opinion that it has been the most advantageous technology.

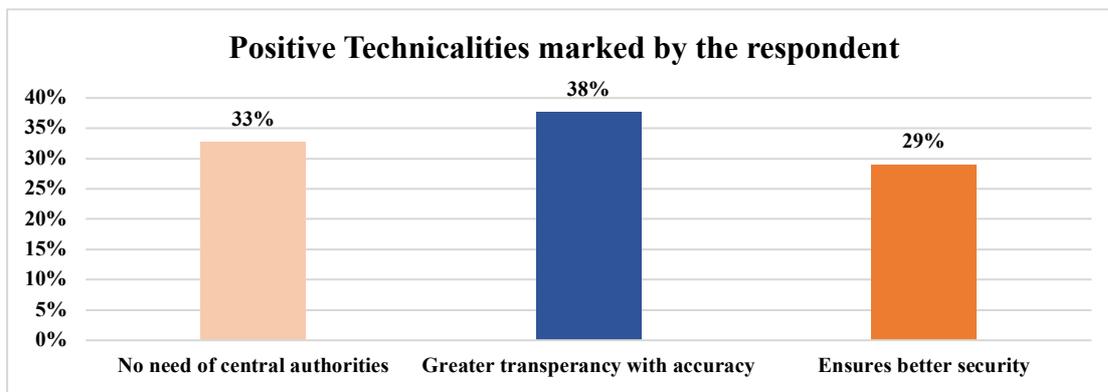
**Pros pointed out by respondents:** BCT has influence the each and every sector of the country. The block-chain has been really beneficial in ensuring transparency in the work and to reduce the workload. It also helps in bringing the efficiency in the work and eradicates the human errors as it is mostly based on automation and really helps in storing data with very high security.

**Cons pointed out by respondents:** The main risks involved in this technology data privacy as the data storing is the main benefits. The problem is block-chain protocols are hard to integrate and if some issues will be occurred then it will take lot of time to resolve it. Market is wholly based on risks. There has always been the risk of profit or loss but the main aim of the business is to take as much as the profit.

**Perceptions of new investors towards investing in digital currency:** As per survey , it found that 60% of the opinion that it may be proved useful for new investors as it ensures the security with greater efficiency and also has data storing as another important asset which could pave the way for more profitable return.

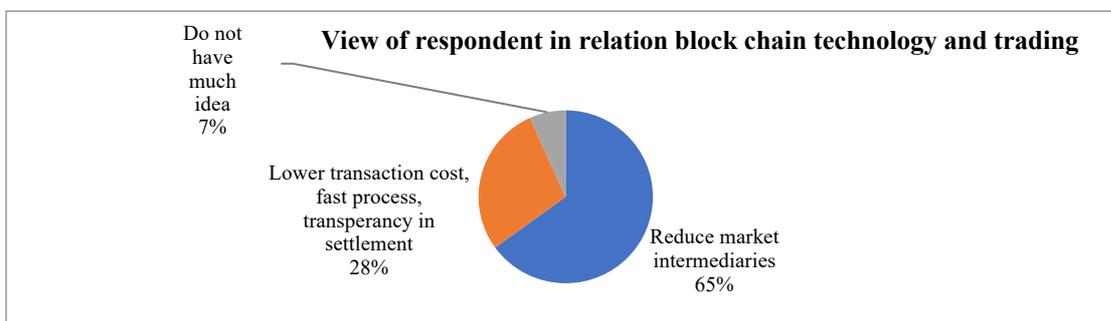
**Positive Technicalities marked by the respondent:** Another important advantage of this technology is that it is fully end to end encrypted form which helps in securing the transaction. This technology is peer to peer network which shows that there is no broker involved and direct transaction which shows that there is more profit cutting the commission.

Graph-7



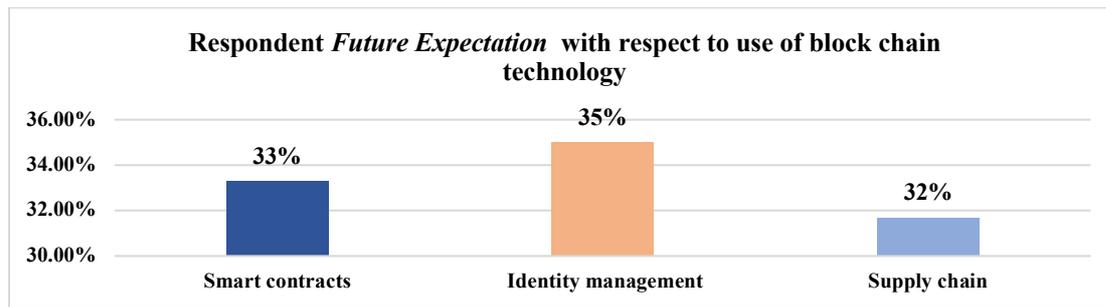
**View of respondent in relation block chain technology and trading:** This technology may also help in trading as well. We found that 65% of the opinion that it will also help in trading as it ensures lower transaction costs, fast process and ensures transparency in share settlement process whereas only 7% think that It reduces market intermediaries which may disrupt the companies.

Graph-8



**Respondent future expectation with respect to use of block chain technology:** In the upcoming time as well, the study find 50% of the opinion that it ensures smart contracts which is self-executive and Ensures identity management which helps to hide one's true identity and Ensures supply chain which has been disrupting in the present time.

Graph-9



Therefore it can be stated that the advantages may really help the new investor to gain profit from the block chain technology which in turn may also help the country to develop GDP of the country.

### **Analysis of the findings of the study**

The finding of the study reveals that; (i) Maximum male are interested in investment where women are reluctant towards investing in crypto currency which are backed up by BCT. Even if assurance of security is there with BCT women are reluctant to take risk. (ii) Respondents are familiar with BCT but not confident in investing in the same. (iii) Maximum respondent are aware about and confident about the positive future growth of the Crypto currency. Hence it can be said that in recent days the demand as well as growing use of BCT in all sphere is known to maximum specifically those who are having interest in investment in digital currencies backed up by BCT. (iv) Here it can be said that future of BCT in virtual currency world is prosperous. (v) The pros and cons are very well known to the respondents with interest in investing in the same but the most important barrier in investing in crypto is risk of loss associated with it and it is not backed up by the central authority. (iv) virtual currencies backed up by BCT has successfully attracted a number of new investors but the problem is that they are not aware about the proper steps and structure of investment and return of investing in crypto currencies. They are having confidence of safety and transparency but not secure about the return.

### **The Future of Block-Chain Technology in India**

The block chain council organisation has predicted that the technology has the potential to change the scenario of Indian economy. The BCT is having such potentials to protect all important data and information that it can change the world's scenario in all most all field like companies, individuals, investors and government as well. The following predictions of future prospective for BCT in India are pointed out below;

- i. *The company who are basically engaged in development of block chain would earn a good share in coming days.*<sup>15</sup>
- ii. *New innovative companies are going to use block chain technology as their base.*<sup>16</sup>
- iii. *The use of block chain by these new businesses would raise their worth valuation to billions of dollars.*
- iv. *“The prediction is that by 2025, block chain technology may add business value worth over \$176 billion, which would further increase to \$3.1 trillion by 2030.” Prediction of Block chain Council*

This is actually revealing the future growth and prospective of block chain technology in India. If these prediction figures are true than it would not be wrong to say that block chain technology is having limitless potential in India. The other areas which hold marvellous prospective for application of block chain technology in India are;

***“a) Transfer of land record, b)Automated custom enforcement & compliance, c)Delivery of public services, d) Crypto wallet, e) Health records, f) Digital certificate management, h) e-sign solution, i) Vehicles registration, j) Pharma supply chain, k)Charity donations, l) Agricultural supply chain, m)Smart grid management, n) e-notary services, o) Cross-border transport, p) e-voting, q) Duty payment and many more”*** pointed out by Block chain Council.

The most important benefit of this technology is that tempering in all these services will be nearly impossible due to involvement of block-chain technology.

***Difficulty in implementation of block chain technology in India:*** It’s true that the technology has potential and required at various level to strengthen the economy but for proper implementation of this technique the government have to remove the challenges associated with its application.

Table-2

---

<b>Requirement to overcome the challenges</b>
<i>Raising security data and transaction</i>
<i>Constant efforts to develop new product</i>

---

<sup>15</sup><https://hbr.org/2017/01/the-truth-about-blockchain>, visited on 15/06/2022, at 7.51 pm

<sup>16</sup><https://www.thehindubusinessline.com/opinion/blockchain-tech-is-the-future/article37999487.ece>, visited on 15/06/2022/at 7.54pm

<i>Research must be done to improve</i>
<i>Requires focus, intense research and law for the same</i>

**The future research directions for block-chain:** The future research direction for block chain includes the following areas like;

*“(i) Whether block-chain can resolve the market failures that are brought about by information asymmetry, and whether it can increase market efficiency and social welfare? (ii) More academic research required for better understanding the mechanisms through which block-chain influences corporate and market efficiency will require further academic inquiry. (iii) The future research should pay more attention to privacy protection and security issues and the regulation techniques for crypto currency. (iv) Another promising research direction promotes the academic work on integration of fin tech and BCT.”*

**Concluding Remark**

The current study reveals the importance, use and uniqueness of BCT in recent days as well as its growing future prospects. It would not be wrong to say that it’s the most modern future technique through which data can be store with the assurance of safety, security and transparency. Again BCT can be used for several fields starting from education, arts, investment, businesses, value, asset to virtual currency as well. The current study explained its present status as well as its status among the investors those who are interested in cryptocurrency investment. The positive attributes with the difficulty in execution is the current status of the BCT. The future scope of BCT is countless and it can be executed to any sector, governing body for secure and immutable data storage. If one talks about BCT advantages then it’s enumerable but the most important thing is that the proper execution and use of the technique in other new field should be workout properly. When comes to virtual currency world it has secured high rate of success but not the desired level because many of the investors are not ware about the proper use of these coins and tokens to earn profit. Again as these are not backed up by the central monetary authority investors are reluctant and fearful about the use of these virtual currencies. Therefore further research on BCT is required for securing highest level of success in its execution and outcome of the execution from the specific field. Again more research as well as awareness is required for the use of virtual currency with BCT by normal people as well investors.

## ON NOAH'S ARK: BUILDING ARGUMENTS FOR CLIMATE MIGRANTS

Dr. Arindam Basu<sup>1</sup> & Shimul Dutta<sup>2</sup>

<sup>1</sup>Assistant Professor, Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur,  
Email: arinbasu1976@gmail.com

<sup>2</sup>Research Scholar, Rajiv Gandhi School of Intellectual Property Law, IIT Kharagpur, Email:  
shimuldutta@gmail.com

### Abstract

*The principle of state sovereignty occupies a ubiquitous position in public international law, and climate change is a problem that is adversely affecting the entire planet. Thus, the connection between state sovereignty and climate change is not difficult to perceive. But this apparent congenial relationship breaks down in the context of climate migration, and we encounter an essential question – how far can state sovereignty be considered an appropriate frame in the context of negotiating the status of climate migrants? Scholars are already reasoning that the severity of climate change necessitates re-looking at the antediluvian state principle under international law. Alternatively, it can also be argued that climate change provides a marvelous opportunity for states to redefine their bargaining assumptions on global negotiating platforms. One of the major problems is finding a comprehensive definition for people displaced by climate change-related events. Thus far, for 'refugees,' the only workable definition comes from the 1951 Refugee Convention that fails to recognize climate change as a factor. Subsequent developments have also not guided offering overlapping and alternative suggestions. The limitation stems from definitional challenges and the ever-present cause-and-effect dichotomy. But what stops states from adopting a more comprehensive approach transcends far beyond these operational challenges. In this article, we posit that the obstacle is primarily related to the conflict of state interests, and it is, thereby, possible to review the status of climate migrants under the emerging consensus supporting the dilution of the principle of state sovereignty.*

**Keywords:** Climate Change, Migration, Refugee, Sovereignty, International Law.

### Introduction

In 2018 at Sundance Film Festival, a documentary called *Anote's Ark*, made by Canadian filmmaker Matthieu Rytz was screened. The documentary was on climate change and was not the first documentary on this century's most controversial topics. Yet, it stood apart in one sense because it captured the essence of a sensitive but often ignored impact of climate change,

metaphorically what could be called ‘death by the sea.’ Sure enough, this expression is not purely symbolic as it is almost certain that sea level rise, one of the direct impacts of climate change, will wipe out a vast part of this planet in the future, and a number of Small Island nations have to accept that destiny helplessly. The documentary was the portrayal of the fate of Kiribati, an island nation in the South Pacific. The camera captured the relentless assault of the waves destroying the life of Kiribati in every aspect. Its President Anote Tong helplessly approached the leaders of other nations to ensure asylum with dignity for his fellow citizens without much success. Eventually, the fate of his diplomatic effort got entwined with an intense human rights struggle that came to the limelight in 2015 when his fellow countryman Ioane Teitiota approached the New Zealand Government, claiming recognition as a climate refugee. His application was rejected, and he filed a complaint before the UN Human Rights Committee (HRC), which oversees the International Covenant on Civil and Political Rights implementation.

The central issue in *Ioane Teitiota v. New Zealand*<sup>1</sup> was applying the principle of non-refoulement under human rights treaties.<sup>2</sup> HRC recognized several impending threats posed by climate change but took sides with New Zealand’s decision. It solemnly held that “without robust national and international efforts, the effects of climate change in receiving states may expose individuals to a violation of their rights under articles 6 or 7 of the Covenant, thereby triggering the non-refoulement obligations of sending states. Furthermore, given that the risk of an entire country becoming submerged under water is such an extreme risk, the conditions of life in such a country may become incompatible with the right to life with dignity before the risk is realized.”<sup>3</sup> Hence, *Teitiota*, as HRC concluded, failed to fulfill the criteria under Article 6 to get recognition as a climate refugee.

What this decision entails has much broader significance than merely reading the status of people affected by climate change under the human rights jurisprudence. Generic and well-debated issues since the passing of the judgment by HRC include the validity of the decision taken by New Zealand under international law, the principle of non-refoulement under human rights treaties, causal effects of climate change to buttress the claim under human rights laws

---

<sup>1</sup> Chhaya Bhardwaj, *Ioane Teitiota v New Zealand (advance unedited version)*, CCPR/C/127/D/2728/2016, UN Human Rights Committee (HRC), 7 January 2020, 23 ENVIRONMENTAL LAW REVIEW 263 (2021).

<sup>2</sup> Principle of non-refoulement. For a detailed discussion, see *id.* at para 9.11.

<sup>3</sup> *Id.* at Para 9.11.

and the acceptability of climate refugee definition. Almost unanimously, particular upshots were approved - that in *Teitiota*, New Zealand did not violate any international law; the principle of non-refoulement has indeed received a new incentive to motivate state actions in the future in similar circumstances; with the severity of climate change problems, it is increasingly becoming easy to establish the causal connection; and the definition of climate refugee is at flux (This is just a remarkable fact that HRC does not have any jurisdiction to pass any order over the status of climate refugee). Our aim in this paper is not to revisit *Teitiota* or the issues it has already triggered. Instead, we will focus on a much more complex and conflict-ridden issue in international law - state sovereignty - that silently shapes international decision-making. Intuitively, we suggest that the antiquated state sovereignty principle in international law plays a central role in shaping the international climate change negotiation process in an almost uncontested fashion. Following this axiom, we will examine whether the legal status of climate refugees can be addressed better if we can conceive state sovereignty differently.

There is, however, a theoretical complexity. It is extremely difficult to locate an inclusive and satisfactory definition of climate refugees within the framework of human rights laws. What should we call them - climate refugees or climate migrants, or simply ill-fated people displaced by the forces of nature? The only available suggestion comes from the 1951 Convention on the Status of Refugees (the 1951 Refugee Convention). But the definition of climate refugee under the Convention with its additional protocol does not cover people displaced by climate change-related events. Because the debate is about a law (or lack thereof) that may apply to people affected by climate change, a stronger argument can be made in favor of addressing the problem under the existing climate change laws, both international and domestic. But efforts to include provisions about the legal protection of climate refugees within the UNFCCC framework have been futile mainly because of normative challenges. After all, under the international climate change regime, states generally vehemently argue for their interests, and anything they agree to accept under the legal rule is always qualified by sufficient long-term incentives that may or may not be available to them.

For India, the inflow of people from neighbouring countries is already a severe problem. The estimation suggests that India will face a substantial increase in migration in the days ahead.<sup>4</sup> In most cases, total displacement with loss of home and livelihood has gone unnoticed.

---

<sup>4</sup> INTERNAL DISPLACEMENT MONITORING CENTRE, GLOBAL REPORT ON INTERNAL DISPLACEMENT 2020 (2020)., <https://www.internal-displacement.org/global-report/grid2020/> (last visited November 26, 2022).

Domestically, the little legislative framework can deal with the displacement problem. For example, the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation, and Resettlement Act, 2013 is one legislation that provides compensation in cases of land acquisition by the Government for developmental activities to take place in the state. Another legislation that deals with rehabilitation in climate events is the Disaster Management Act of 2005, which prepares disaster plans, prevents or mitigates the effects of disasters, and coordinates and manages responses. However, these laws do not address the rehabilitation of climate refugees from other nations. This indicates a crisis that already needs a domestic solution. But can that solution be exclusionary in nature? Here, we may sheepishly forward a line of reasoning leading to some more tricky questions – does it make sense for India to accept climate refugees from Bangladesh? What is the difference when India can refuse to accept migrants from Kiribati but should accept them when they come from Bangladesh? Here also, theoretically, the search for plausible answers should begin with the inquiry into India's sovereign rights *vis a vis* its position in international law. In the following progression, we posit that India is already positioned to extend protection to vulnerable populations who enter the country after being severely affected by climate change events. In this way, India forwards a unique template of state sovereignty that may open up a tremendous opportunity for other nations to learn from regional cooperation, which can have a meaningful impact on future climate change negotiations.

The article is divided into five parts. The first part introduces the subject. Part II deals with the definitional challenges that are connected to the identification of people displaced by the events of climate change. Disconcertingly, we note that international law challenges have proved difficult to overcome. Part III discusses the relevant theories of state sovereignty. This Part is divided into two segments – the first section touches briefly upon the conventional understanding of state sovereignty, The following area opens up to a more contemporary application of the concept. The discussion prepares us to delve into an inquiry undertaken in Part IV related to the status, importance, and application of state sovereignty in international environmental law. The following section of this Part examines the application of the idea of state sovereignty in the context of climate migration. Part V is about India's standing. By adopting a nuanced and tolerable class towards climate displacement, we argue that India advances a regional model of cooperation under which the concept of state sovereignty makes way for profound humanitarian reasons. Part VI concludes the paper.

## **Definitional Challenges**

Because the plight of climate refugees has been a matter of open debate since the 1980s, the existing definitional discontent is somewhat undesirable.<sup>5</sup> Typical classification with somewhat interchangeable expressions such as environment/climate migrant, climate refugees, and environmentally/climate displaced persons has led us to overlap and contested jurisprudence. In this article, for the sake of simplicity, we prefer to use them interchangeably, though.

Upfront, we face difficulty determining the reasons responsible for displacing people from their original places. Suppose rising levels inundate a low-lying area of a country, and affected people start migrating. In such a case, it is possible to assume that increasing sea level is the direct negative impact of climate change causing displacement. The same issue in another country, where low-lying areas are better protected because of proper and timely initiatives taken by the government, will not be severe enough. However, then the focus of the debate shifts from a lack of options available to the affected group to a lack of action on the part of the government.<sup>6</sup> This takes us to a standoff. How should we identify groups forced to move only because of climate change? How should we segregate climate change as a reason from other possible causes? How far different terminologies used thus far accept these nuances?

It, therefore, certainly makes sense to understand the specific terminologies. In 1970, Lester Brown of the World Watch Institute coined the term ‘environmental refugee’ or ‘climatic refugee,’ which began to gain popularity in the 1990s.<sup>7</sup> The general understanding that followed presented a plain meaning of climate refugee - a person or a group of persons who become stateless due to anthropogenic or natural climate change. One can argue that such an understanding of climate refugees is a subset of the climate-induced migration ‘or displacement.’ As it suggests, climate-induced migration or displacement can be categorized further based on the extent of the removal caused. In addition, there can be further classification

---

<sup>5</sup>This perhaps came in the limelight when Essam El-Hinnawi of UNEP called environmental refugees ‘as: ... *those people who have been forced to leave their traditional habitat, temporarily or permanently, because of marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life*’

<sup>6</sup> Alex Randall, *Climate refugee statistics*, CLIMATE AND MIGRATION COALITION (Nov 25, 2022, 11.07 A.M) <https://climatemigration.org.uk/climate-refugee-statistics/> (last visited November 26, 2022).

<sup>7</sup> James Morrissey, *Rethinking the Debate on Environmental Refugees: ‘From Maximalists and Minimalists’ to Proponents and Critics*, 19 JPE 36, 49 (2012); See also CAMILLO BOANO ET.AL., ENVIRONMENTALLY DISPLACED PEOPLE: UNDERSTANDING THE LINKAGES BETWEEN ENVIRONMENTAL CHANGE, LIVELIHOODS AND FORCED MIGRATION (2008).

- internal and cross-border migration. Internal migration means the migration which causes the person to migrate within the nation, for example, a shift from rural to urban regions. What we need to acknowledge is that migration is a phenomenon that has numerous push factors, such as better job opportunities, health care facilities, education systems, political stability, religious freedom, etc.<sup>8</sup>

Nevertheless, an expression like climate or environmental refugee has been criticized as misleading. These criticisms mainly point towards the 1951 Refugee Convention and international refugee law, where the expression ‘climate refugees’ finds a place. The definition available under the 1951 Convention is narrow and misses an additional category of persons like climate migrants. It was meant to be that way because international law did not include the debate over climate change within its fold when the 1951 Convention took shape. This is amply reflected as some scholars reasoned that the term ‘climate refugee’ is a phantom manifestation of something without lawful subsistence. According to them, persons forced to escape their country due to ecological or climatic processes or events will not necessarily meet the refugee definition defined by Article 1A (2) of the Refugee Convention<sup>9</sup> and Protocol.<sup>10</sup> It does not accept climate change as one of the criteria for creating refugees.

Over the years, critics have urged us to break free from the thin understanding of climate refugees. They have contended that instead of climate refugee, environmental migrant, or something more contemporary, an expression such as ‘displaced person’ appears to be more appropriate vocabulary.<sup>11</sup> Alternatively, from the theoretical point of view, as J. McAdam argues, the term climate migrant seems to be more appropriate in comparison to climate refugees:

*The movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their*

---

<sup>8</sup> STEPHEN CASTLES & COLIN RAJAH, ENVIRONMENTAL DEGRADATION, CLIMATE CHANGE, MIGRATION AND DEVELOPMENT: MEXICO (2010).

<sup>9</sup> Convention relating to the Status of Refugees, 1951 (adopted 28 July 1951, entered into force 22 April 1954).

<sup>10</sup> Protocol relating to the Status of Refugees, OHCHR 1967, <https://www.ohchr.org/Documents/ProfessionalInterest/protocolrefugees.pdf>. (last visited November 26, 2022).

<sup>11</sup> STELLINA JOLLY & NAFEES AHMAD, CLIMATE REFUGEES IN SOUTH ASIA: PROTECTION UNDER INTERNATIONAL LEGAL STANDARDS AND STATE PRACTICES IN SOUTH ASIA (2019).

*habitual place of residence or choose to do so, either temporarily or permanently, within a State or across an international border.*<sup>12</sup>

Making a move towards recognition of this idea in 2018, United Nations finalized the text of the Global Compact on Safe, Orderly, and Regular Migration. This first internationally negotiated agreement exclusively covers several drivers of international migration, including climate change. In Preamble it referred to the United Nations Framework Convention on Climate Change and other notable conventions. In several paragraphs, the 2018 Global Compact on Refugees touches upon issues related to climate change, which is neatly condensed in Objective 2, which is about ‘minimizing the adverse drivers and structural factors that compel people to leave their origin.’<sup>13</sup> Subsequently, member states agreed to set up an International Migration Review Forum (IMRF) to assess the progress made on the 2018 Global Compact. The first IMRF took place on May 2022 in New York, resulting, unsurprisingly, in a report on Progress Declaration.<sup>14</sup> The short and mostly rhetorical Declaration offers little in terms of transforming state enthusiasm into something binding. It mainly emphasizes upon cooperative model at the international level through hortatory language. Besides, the 2018 Global Compact and IMRF text fails to recognize any actionable commitment to mitigate various artificial factors triggering global mass migration.

It appears that the test adopted to examine the legal status of people affected by climate change follows an archetype – think, feel and bargain for the formless pledge. The pattern was repeated in the report submitted to the Human Rights Council in 2022 by Ian Fry, the Special Rapporteur on promoting and protecting human rights in the context of climate change.<sup>15</sup> Nonetheless, the six-point plan to address the challenges faced by people uprooted by climate change is explicitly considered from a human rights perspective. It does little to address the gap that exists in the definition.

---

<sup>12</sup> J. McAdam, *From Economic Refugees to Climate Refugees? Review of International Refugee Law and Socio-Economic Rights: Refuge from Deprivation*, 31 Melbourne Journal of International Law 579 (2009).

<sup>13</sup> United Nations Framework Convention On Climate Change, United Nation (1992) Objective 2, [https://unfccc.int/files/essential\\_background/background\\_publications\\_htmlpdf/application/pdf/conveng.pdf](https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf) (last visited November 26, 2022).

<sup>14</sup> International Migration Review Forum & UN Migration (IOM), Pledges of the International Organization For Migration (IOM) in the Context of The International Migration Review Forum, <https://www.iom.int/sites/g/files/tmzbd1486/files/documents/iom-pledges-v3.pdf> (last visited November 26, 2022).

<sup>15</sup> Ian Fry, *Connection between human rights and climate change ‘must not be denied’*, UN NEWS GLOBAL PERSPECTIVE HUMAN STORIES, CLIMATE AND ENVIRONMENT (Oct 21, 2022).

Hence, it is more feasible that apart from convening a separate treaty to address the definitional and status conundrum, at least two options can be tried - relooking at the status of climate refugees under the 1951 Convention and upgrading the United Nations Framework Convention on Climate Change by adding a protocol. In the case of the former, Article 1(A)(2) of the 1951 Refugee Convention defines 'refugee' as a person:

*"...owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the land of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it."*

It is challenging to read climate change as a driver within this definition because the causes are diverse, and it is difficult to identify one factor that contributes to climate alteration. If the matter can reasonably be solved by strengthening domestic institutional mechanisms, then there is no need to refurbish the definition provided by the 1951 Refugee Convention. Yet, an option is provided in the Convention itself to revise the above description. Article 45 of the Refugee Convention provides that any member "state may request a revision of this Convention at any time by a notification addressed to the Secretary-General of the United Nations."<sup>16</sup> Thus far, no such proposal has been forwarded. The upshot is simple. With the growing scientific understanding, climate change as a cause of displacement is difficult to establish conclusively with the ever increasing scientific knowledge. This, however, gets further complicated if we treat climate change as a subset of environmental problems. This distinction is essential as not all environmental problems arise because of climate change, but all climate change-related issues can be read within the broader ambit of environment-related problems. Therefore, the term 'environmental refugee' receives more purchases.

### **Evolution of the concept of Sovereignty**

The concept of state sovereignty is always considered a challenging puzzle to solve in international law. Over the years, intense arguments ensued between positivists, realists,

---

<sup>16</sup> The Refugee Convention, 1951, art. 45.

liberals and critical thinkers about its contents, importance, and application. This section briefly covers that discourse.

*A. Theories that Matter Most*

The concept of state sovereignty enjoys an enigmatic position in international law, neither accepted entirely as a powerful influencer in international relations nor relegated to a place of rhetoric when it comes to evaluating the associations between states. Therefore, the long history of state sovereignty is marked by literature reflecting both the flavors of formalism, and realism. Stephen D. Krasner, in his classic book *Sovereignty: Organized Hypocrisy*, recognizes at least four different representations that are associated with sovereignty - domestic sovereignty, interdependence sovereignty, international legal sovereignty, and Westphalian sovereignty.<sup>17</sup> In general, among all the classes, Westphalian and international legal sovereignty gained prominence in public international law most. According to Krasner, they are examples of organized hypocrisy.<sup>18</sup> In a different take on state sovereignty, Anne Bodley distinguished between external and internal sovereignty by emphasizing the ‘power of independent action in external and internal relations’ that represents the a comprehensive idea of sovereignty.<sup>19</sup>

Conceivably, a combination of states experiencing both internal and external sovereignty sets up an international order under which they interact. It is not difficult to understand what internal and external sovereignty means. Whereas internal sovereignty denotes complete authority and control exercised by a state in matters located within the state boundary, external sovereignty deals with issues outside the territory of a state. A typical description of external sovereignty is found in the *Island of Palmas Case*, where ‘sovereignty’ was signified as ‘independence regarding a portion of the globe’ and was further stated as ‘the right to exercise therein, to the exclusion of any other State.’<sup>20</sup>

---

<sup>17</sup> STEPHEN D. KRASNER, *SOVEREIGNTY: ORGANIZED HYPOCRISY* (1999). Domestic sovereignty means how a state manages its activities within its territory and about control. which refers to the organization of political authority within a state and the level of control enjoyed by a state. By interdependence sovereignty, a state deals with cross-border issues. International legal sovereignty is about states’ ability to take part in international political system and Westphalian sovereignty denotes a well-recognized principle in international law that each state has exclusive sovereign authority over its territory. However, state can have only type of sovereignty at a time.

<sup>18</sup> *Id.* at. 25

<sup>19</sup> Anne Bodley, *Weakening the Principle of Sovereignty in International Law: The International Tribunal for the Former Yugoslavia*, 31 N.Y.U. J. I INT’L L. & POL. 419 (1999).

<sup>20</sup> *Island of Palmas Case* 2 RIAA 829 (1928) 838 [https://legal.un.org/riaa/cases/vol\\_II/829-871.pdf](https://legal.un.org/riaa/cases/vol_II/829-871.pdf) (last visited November 26, 2022).

In his influential book, Professor F.H. Hinsley, while discussing the theory of sovereignty,, emphasized the ever-changing social, political, philosophical, legal, and economic backgrounds of nations that keep altering the frame of their relationships. For him, sovereignty is simply an idea that does not add many qualifications to the statehood itself.<sup>21</sup> This is not easy to grasp in the first place, given the fact that sovereignty as a concept has significantly saturated international legal outcomes over the years. But similarly, it can also be pointed out that such impact is to be adjudged only as a matter of degree. In other words, we focus more on the outcome of state exchanges or negotiations where sovereignty has played a part,. Eventually, we understand little about the content and theoretical justification of the concept. Indeed, one can trace the opposing idea as well. For example, Alan James, a contemporary scholar of Hinsley, focused more on existing state practices. According to him, sovereignty is an integral aspect of state practice, the ambit, and application of which only a state can justify in the context of its membership in international society.<sup>22</sup>

To add this, we may refer to the classic postulation forwarded by John Austin in his *The Province of Jurisprudence Determined*, where he stated that “[s]upreme power limited by positive law is a flat contradiction in terms.”<sup>23</sup> This sharp observation was made with the idea that the sovereign states enjoy unparalleled authority within their given territories. Surely then, according to this theory, conditions can make and enforce any law they want. The power a sovereign state enjoys is limitless, and there cannot be any superior force to which it must bow down. In this way, sovereignty to Austin (also to Jeremy Bentham) is the fact that makes law possible.<sup>24</sup> An important question, therefore, can be asked - Can sovereign voluntarily give consent to limit its own authority? In the world of Hobbes this is also impermissible, as he said:<sup>25</sup>

*The Sovereign of a Common-wealth . . . is not subject to the Civil Lawes. For having power to make, and repeale Lawes, he may when he pleaseth, free himselfe from that subjection, by*

---

<sup>21</sup> See, F.H. HINSLEY, SOVEREIGNTY 126–213 (2d ed., Cambridge Univ. Press 1986). Even before the state emerged as a distinctive form in the sixteenth century, medieval theorists viewed the problem of regulating secular rulers in both their domestic and external affairs through the common lens of Christian theology and natural law. See *id.* at 45–125, 164–78.

<sup>22</sup> ALAN JAMES, SOVEREIGN STATEHOOD: THE BASIS OF INTERNATIONAL SOCIETY (1986).

<sup>23</sup> JOHN AUSTIN, THE PROVINCE OF JURISPRUDENCE DETERMINED 141 (Wilfrid E. Rumble Ed., Cambridge Univ. Press 1995) (1832).

<sup>24</sup> Pavlos Eleftheriadis, *Law and Sovereignty*, OXFORD LEGAL STUDIES RESEARCH PAPER NO. 42/2009, <http://dx.doi.org/10.2139/ssrn.1486084>, see, also H. L. A. Hart, *Bentham on Sovereignty*, 2 IRISH JURIST 327-335 (1966).

<sup>25</sup> See generally THOMAS HOBBS, LEVIATHAN 190 (A.R. Waller ed., Cambridge Univ. Press 1935) (1651).

*repealing those Lawes that trouble him, and making of new; and consequently he was free before. For he is free, that can be free when he will: Nor is it possible for any person to be bound to himself; because he that can bind, can release; and therefore he that is bound to himself only, is not bound.*

For Hobbes, this uninhibited power comes from the social contract. It can also be said that common consent justifies infinite sovereignty. It is clear that sovereignty as perceived by Austin, Bentham and Hobbes, as normativity in it and their blunt portrayal of a legal system exists because certain governance structures are present. Unsurprisingly, this strange realm of sovereignty faced strong criticism from H.L.A. Hart and Joseph Raz<sup>26</sup> and clearly, is at odds with the popular vision of international law where state consent, whether diligently conformed or not, is considered fundamental. However, it is important at the same time to enquire into whether state consent can independently produce legally binding obligations. Immediately we recall the influence of *pacta sunt servanda*,<sup>27</sup> the centrality behind the formation of international law-making through treaties. But this alone cannot explain why state consent should be legally binding because consent can simply be a means for creating international law.<sup>28</sup>

This feels somewhat intuitively logical as the process of creating a law cannot possibly validate why that law should bind the lawmakers. This theoretical challenge is so difficult to overcome that it frustrated international law scholars who later stressed upon legal fictions like *jus cogens* or peremptory norm deviation which is not possible in international law. After the Second World War, the dilution of consent as a basis for creating international law continued, and treaties started covering non-consenting parties as well. For example, Article 2(6) of the UN Charter provides that the countries which are not members of the UN are also to abide by the principle of Sovereign equality and any other principle required to maintain international peace and security.<sup>29</sup> Similarly, the Statute of the International Criminal Court gives power to the court to proceed against non-parties who commit crimes in the territories of party states.<sup>30</sup> Some

---

<sup>26</sup> JOSEPH RAZ, *THE CONCEPT OF A LEGAL SYSTEM* 27-43 (1970); H. L. A. HART, *THE CONCEPT OF LAW* (1994), chaps. 1- 4; *see also id.* at 93 (“Disputes as to whether an admitted rule has or has not been violated will always occur . . . if there is no agency specially empowered to ascertain finally, and authoritatively, the fact of violation.”). Hart calls this second problem “inefficiency,” but its relationship to “uncertainty” in the intuitive sense is obvious.

<sup>27</sup> I. I. Lukashuk, *The Principle Pacta Sunt Servanda and the Nature of Obligation Under International Law*, 83 *THE AMERICAN JOURNAL OF INTERNATIONAL LAW* 513-518 (1989).

<sup>28</sup> Jack Goldsmith & Daryl Levinson, *Law For States: International Law, Constitutional Law, Public Law*, 122 *HARVARD LAW REVIEW* 1847 (2009).

<sup>29</sup> U.N. Charter art 2.

<sup>30</sup> *Supra* note 28.

scholars even proposed to do away with state sovereignty completely, an idea which we intend to trade with care. At this stage, it appears, at least in the context of international environmental law and especially in the context of climate migration, that the complete negation of state sovereignty may not be promising. Accordingly, the Permanent Court of International Justice's observation in the *Case of S.S. Lotus* appears to be relevant - "International law governs relations between independent States. The rules of law binding upon States, therefore, emanate from their own free will as expressed in conventions or by usages generally accepted as expressing principles of law and established in order to regulate the relations between these co-existing independent communities or with a view to the achievement of common aims. Restrictions upon the independence of States cannot, therefore, be presumed."<sup>31</sup> This opinion of PCIJ was not above controversy because of the ingrained positivist flavour. But the underneath idea survived in later international law, though with necessary modification as felt imperative after the Second World War.

#### *B. Sovereignty as We Understand Now*

After the Second World War, gradually, it became clear to the international community that cooperation was the key for survival and any rigid understanding of sovereignty should be revised for that reason. Scholars were more concerned about the legal position of sovereign states in international law. A strong argument came from Hans Kelsen, whose the monistic view and negative response to state sovereignty became part of the universal legal system. The reason for his rejection of the rigid idea of sovereignty was quite direct, though. He expected that by challenging the imperialistic 'dogma' of sovereignty, international law would promote a unitary legal view of the world order.<sup>32</sup> Sure enough, Kelsen's line of argument and the need to normatively bind a state in a situation where it did not give consent introduced new thinking in international law. It also appeared that state consent could not be treated as a firm tenet of state sovereignty as once conceived.

One significant blow to the consent theory comes from increasing interactions between states in the present era. The relationship has become so complex and interwoven that it is impossible to separate and identify any state interest in isolation. In his seminal work, Frédéric Mégret has introduced an additional layer to this debate. For him outsourcing various sovereign functions

---

<sup>31</sup> S.S. 'Lotus', France v Turkey, Judgment, Judgment No 9 (Decision No) PCIJ Series A No 10 (Official Citation) ICGJ 248 (PCIJ 1927) (OUP reference) (1935) 2 Hudson, World Ct Rep 20 (Other Reference) p.18.

<sup>32</sup> HANS KELSEN, PURE THEORY OF LAW 200 – 201 (translated by Max Knight, 1970).

by the state promotes the privatization of state sovereignty. One of the reasons that have forced Mégret to raise this concern is the ‘light-touch’ regulation of corporate interests and creating of much space for commercial entities principally swayed by profit maximization motives.<sup>33</sup>

Therefore, moving away from the classical system of international law in search for co-existence and cooperation gradually became the norm, though the theory giving prominence to the will of the state was not completely discarded. The general consensus is now to put some restraints upon states against forwarding the immutable sovereignty argument. Strong supportive observation can be found in the advisory opinion of President Bedjaoui in the *Legality of the Threat or Use of Nuclear Weapons* when he asserted:<sup>34</sup>

*It scarcely needs to be said that the face of contemporary international society is markedly altered. Despite the still modest breakthrough of "supra-nationalism," the progress made in terms of the institutionalization, not to say integration and "globalization," of international society is undeniable. Witness the proliferation of international organizations, the gradual substitution of the international law of Cooperation for the traditional international law of Co-existence, the emergence of the concept of "international community" and its sometimes-successful attempts at subjectivization. A token of all these developments is the place in which international law now accords to concepts such as obligations erga omnes, rules of jus cogens, or the common heritage of mankind.*

These inferences further open up a possibility to enquire into state sovereignty and its scope in the context of recognizing the rights of climate migrants. We have already noted that there remains a profound and pervasive tension between the concept of boundless sovereignty, and suggestions in support of imposing certain limitations on such sovereignty are also well accepted. This indeed affects the domestic decision-making process of any state. It may, therefore, undoubtedly be argued that whether it is justified for a state to deny the rights of climate migrants. The argument forwarded by Goldsmith and Levinson can provide us with the reason for this inquiry that stands upon the strength of “moral theory and international law alike” and “there is no easy escape from the challenge of reconciling normative constraints and demands on the state with the traditional claims of state sovereignty and self-determination.”<sup>35</sup>

---

<sup>33</sup> Frederic Mégret, *Are There “Inherently Sovereign Functions” in International Law?*, 115 AMERICAN JOURNAL OF INTERNATIONAL LAW 452-492 (2021).

<sup>34</sup> *Declaration of President Bedjaoui*, INTERNATIONAL COURT OF JUSTICE, Available at: <https://www.icj-cij.org/public/files/case-related/95/095-19960708-ADV-01-01-EN.pdf> (last visited 22 October, 2022)

<sup>35</sup> Supra note 28.

For the same reason, the line of reasoning forwarded by David Luban in response to demands that democracies engage in humanitarian intervention resonates:<sup>36</sup>

In a democracy, the political support of citizens is a morally necessary condition for humanitarian intervention, not just a regrettable fact of life. If the folks back home reject the idea of altruistic wars and think that wars should be fought only to promote a nation's self-interest, rather narrowly conceived, then an otherwise-moral intervention may be politically illegitimate. If the folks back home will not tolerate even a single casualty in an altruistic war, avoiding all losses becomes a moral necessity.

### **State Sovereignty, Environmental Obligations, and International Law**

This part analyses the status of state sovereignty in the context of international environmental laws. We have tried to confirm the dissents to the unqualified status of sovereignty in environment-related matters. Further, argue that in the case of climate migrants, the idea of sovereignty must give away to a more inclusive and accommodative approach.

#### *A. Tracing the Uncomfortable Intimacy*

Unsurprisingly, the intimacy between state sovereignty and environmental obligations under public international law cannot be easily explained. We have already acknowledged that the popular idea in public international law, with all theoretical conflicts, supports a basic notion, *i.e.*, within national territory, a state is sovereign and enjoys the authority to deal with its subjects and resources. This includes natural resources too. Yet, in environment related matters, this absolutism is somewhat conditioned by the state's responsibility to not inflict harm on the territory of other nations.<sup>37</sup> For decades this model remained a prodigious inspiration in international environmental laws. It is difficult to see the importance of this model inversely because no matter what challenges new global environmental problems pose, the orthodox configuration in public international law is systematized through the long historical discourse. In the previous part, we have already pointed out the diverse opinions of some prominent thinkers. At the same time, we acknowledged that the theoretical challenge is almost impossible to overcome, and therefore, international legal scholars in later years focused on developing a

---

<sup>36</sup> David Luban, *Intervention and Civilization: Some Unhappy Lessons of the Kosovo War*, in GLOBAL JUSTICE AND TRANSNATIONAL POLITICS: ESSAYS ON THE MORAL AND POLITICAL CHALLENGES OF GLOBALIZATION 79, 85–86 (Pablo de Greiff & Ciaran Cronin eds., 2002).

<sup>37</sup> Stockholm Declaration, 1972, <https://wedocs.unep.org/bitstream/handle/20.500.11822/29567/ELGP1StockD.pdf> (last visited 22 October, 2022).

model through which the relations among states get legitimized and validated. Part of this discourse includes increasing scrutiny of state sovereignty in recent times as it is believed that the diluting this unbending norm is desirable to solve some of the complex global environmental problems that were unknown in antiquity.

Let us look at it from another perspective. Couched in concise form in the Charter of United Nations<sup>38</sup> – *(t) the Organization is based on the principle of the sovereign equality of all its Members* – state sovereignty appears to be a modest expression of territorial autonomy and mutual recognition. If this can be called the modern depiction of state sovereignty from the preview of environment, then, yet again there, appear limitations in locating any descriptive content in it. Going back to the 17<sup>th</sup> century, we know that a foundation of state sovereignty was laid down during the Peace of Westphalia in 1648, resulting in the signing of two treaties between the empire and the new great powers, Sweden and France.<sup>39</sup> However, if we look at the Treaty of Westphalia closely, the absence of any clear idea to consider the state as a sovereign entity within organizational principles of international law surprises us. Perhaps, one can imagine that the jurisprudential gulf between positivists and realists in later days was only the result of this ambiguous legal understanding.

How should we then perceive state sovereignty as a guiding force of international environmental law in the contemporary world? Here, we need to remember that the development of international environmental law in modern era only started after the 1970s when environmental treaty-making took the center stage. Unfortunately, the resulting jurisprudence carries the legacy of the the same sovereignty conundrum that plagued international law for centuries. Most environmental treaties (or treaty-making processes) explicitly or impliedly bear the mark of it, as no state will like to be part of a treaty system if the treaty does not provide them enough flexibility to make a decisions by domestic policies. More universal the problem (such as climate change) greater the flexibility. Isn't it true that Common but Differentiated Responsibility (CBDR) that prodigiously influences climate change negotiation is a construction of the clear sense of territorial sovereignty? There should hardly be any reservation that state obligations as in later years articulated through the sinuous language of the Paris Agreement, 2015 (and its predecessors too), fancifully what we call

---

<sup>38</sup> U.N. Charter, art 2.

<sup>39</sup> Anuschka Tischer, Peace of Westphalia (1648), OXFORD BIBLIOGRAPHIES, <https://www.oxfordbibliographies.com/view/document/obo-9780199743292/obo-9780199743292-0073.xml> (last visited 23 October, 2022).

‘obligation of conduct,’ is the most violent manifestation of self-awareness and self-preservation.<sup>40</sup> It is stated that because greater participation enhances the chance to find a solutions to the problem like climate change, making more room for states is desirable so that they can put efforts to achieve targets in accordance with their capabilities. The choice, lies in understanding the nature of the problem. If a problem is dynamic, like climate change, the structure of a treaty should be designed with supple provisions adjustable with time. Conversely, this idea leaves room for us to think about a territorial and stationary problem for which a treaty configuration can be more circumscribed, offering less leeway for states to argue unilaterally for self-preservation.

A close enough analogy can be drawn from the international regime of hazardous and ultra-hazardous substance regulation, such as oil spills and nuclear accidents. The development of the principle of absolute liability certainly indicates a notion of state responsibility that does not offer exceptions. Here, the issue of sovereignty remains mute, at least for those states responsible for the act. Looking from another viewpoint, in such a situation, the affected states’ sovereign rights take precedence over the responsible state, and a model of hierarchy, though approximately, materializes. In this way, the legitimation gap<sup>41</sup> between internal and external sovereignty also appears immaterial. The solution is found based on the severity and territorial effect of a problem.

The question further comes – Is climate migration itself an emotional problem or a derivative of a complex emotional problem like climate change but, in essence, territorial in nature? We believe that climate migration is a severe territorial problem that, if not addressed quickly, can create a domino effect worldwide. There may be certain dynamism in it as the more severe the climate catastrophe, the larger the possibility of population shift. However, this idea must not be used to build a satisfactory argument justifying the limited or lack of steps taken by the states to ameliorate the problem. In other words, while addressing climate change, a state may give consent conditioned by its sovereign interests. But tackling climate migration demands a stricter regime of state obligations. This is even more justified if we recall our argument in the opening part of this article, *i.e.*, it is possible to see the issue of climate migration as an institutional failure within a state where the problem originates.

---

<sup>40</sup> Resounding statement comes from Article 4.

<sup>41</sup> *Supra* n. 28.

*B. In Search of Environmental Normativity*

Undeniably, climate change poses multiple threats. Other than pure environmental challenges, several concerns over international security also emerge. It is now given that negative changes in natural environmental conditions are largely attributable to human activities. Increasingly it is becoming difficult for us to react with appropriate mitigation and adaptation strategies to address the problems associated with climate change. As a result, we have started to understand that the relationships between nations are bound to be altered, and consequently, our understanding of state sovereignty and state fragility must also be re-worked.

If we accept that the modern concept of state sovereignty is built on both a state's output and input legitimacy, climate change seriously compromises a state's capability to provide basic resources to its population and, thereby, can drastically affect its output legitimacy. This attrition can lead to state fragility and failure, which in succession can upset regional and international security.<sup>42</sup> In fact, it should make sense to make an inclusive argument to legitimize environmental claims by abolishing the divide between internal and external sovereignty in some issues. The struggle of climate migrants for survival in different parts of the world undoubtedly appears to be a potential reason for such dilution. Therefore, the legitimation gap that a sovereign state often uses to validate its decision in domestic matters will appear to be a weak justification to avoid universal duties towards humanity. Even so, it feels necessary not to reject the concept of sovereignty entirely as states are endowed with a commitment to protect their citizens from external authority. This duty is a non-negotiable component of the sovereignty itself. For this reason, it is better to rework the concept to make it more accommodative and distributed across the border, especially within the states in question.

For now, it should be clear to us, as argued by Derek Croxton, that "(a)although no one yet conceived sovereignty as the recognition of the right of other states to rule the territory, the increasingly complex diplomatic milieu shows how a polar system was able to develop. In this sense, one may locate the origins of sovereignty around the peace of Westphalia, but only as a consequence of the negotiations, not of an explicit or implicit endorsement of the sovereignty

---

<sup>42</sup> Caitlin E. Werrell & Francesco Femia, *Climate Change, the Erosion of State Sovereignty, and World Order*, 22 THE BROWN JOURNAL OF WORLD AFFAIRS (2016).

in the terms of the treaties.”<sup>43</sup> It will surely be a logical conclusion not to accept state sovereignty as an overwhelming guiding criterion for environmental treaty-making. Likewise, it will be wrong to obey the absolute supremacy of state sovereignty while interpreting provisions of treaties, at least in certain situations. At the most, we can treat state sovereignty as a contested concept similar to democracy and liberty.<sup>44</sup> The first meaning is given and accepted. But the proper application should be further examined in the light of the nature of the contest at the ground level. In this way, we can definitely repudiate absolute normativity that backs the supremacy of state sovereignty. Reasonably, what we can prefer is the idea of ‘conditional normativity,’ especially in the context of recognition of the rights of displaced people affected by climate change.

### **V. India and Climate Migration: An Alternative Expression**

India’s considerable bargaining advantage comes from its clever approach in international politics. Being a growing economy and intellectual hub India enjoys a strategic advantage in South Asia. Unsurprisingly, with China, India has been able to assert its demands during climate talks without inviting any coercive consequences. From taking part in the 1992 United Nations Framework Convention on Climate Change (UNFCCC) and thereafter avoiding binding quantified carbon emission limits laid down under Kyoto Protocol, India always firmly pointed out the differentiated responsibilities that participating countries should take for mitigating the effects of climate change. It has remained India’s consistent narrative, and in the post-Kyoto period, India successfully presented before developed nations challenging conditions to rework their incentives.<sup>45</sup>

Later, when countries started to work on the legal character of the Paris Agreement, India’s typical abhorrence towards binding emission targets started to attract criticism. This was not unexpected as before the Paris negotiation started, at Durban Platform, India, it tried hard to put forward its preference for the inclusion of an ambiguous phrase, such as ‘agreed outcome with legal force’, into the parties’ decision.<sup>46</sup> The upshot of this effort is largely reflected in the flexible language of Article 4 of the Paris Agreement in the form of obligation of conduct. At

---

<sup>43</sup> Derek Croxton, *The Peace of Westphalia of 1648 and the Origins of Sovereignty*, 21 THE INTERNATIONAL HISTORY REVIEW 569-591 (1999).

<sup>44</sup> ANDREW DOBSON, FAIRNESS AND FUTURITY: ESSAYS ON ENVIRONMENTAL SUSTAINABILITY AND SOCIAL JUSTICE (1999).

<sup>45</sup> See Lavanya Rajamani, *India’s Approach to International Law in the Climate Change Regime*, 57 INDIAN JOURNAL OF INTERNATIONAL LAW 6 (2017).

<sup>46</sup> *Ibid.*

COP 26 held at Glasgow, Scotland,<sup>47</sup> India maintained its stance and demand for more carbon space, deferring its Net Zero goal by 2070. Recently held COP 27<sup>48</sup> has not added much to this set-up. The significant outcomes of the COP 27 include the establishment of the Loss and Damage fund for Vulnerable countries and also the incorporation of a five-year program to promote climate technology solutions in developing countries. It also initiated a work program aiming at the implementation and mitigation of climate change. The States were also requested to strengthen and revise their climate action plan at the national level and expedited the process of phasing out of fossil fuel subsidies in order to meet the 2030 targets.<sup>49</sup> But how far these lofty aspirations will materialize is doubtful at this stage.

Nonetheless, India's overall target is to improve energy efficiency by enhancing solar power capacity, promoting electric transport, and using hydrogen reserves as an alternative to other fossil fuels. But what remains unsatisfactory is India's domestic approach towards an already established and envious environmental jurisprudence. Apparently, it is possible to see this separately from the difficulties faced by a part of the population who have lost their land and livelihood because of climate change-related events. But on closer look, a different argument can be made. As we have already pointed out that in the last decade, India has diluted some of its essential environmental laws, which can have a more significant negative impact on the overall environment of India. Two of the most important areas where such dilution has happened are coastal zone regulation and environment impact assessment.

Hence, India stands at a crossroads. On the one hand, it wants to uplift the lives of its population in all matters. On the other, it is either bound by specific international legal obligations or general (customary) norms of international law. Recently, the United Nations High Commissioner for Refugees has identified India as a safe place for asylum seekers.<sup>50</sup> Even if we consider this a the compliment, it is bound to raise a few uncertainties when we think about potential governance issues that may arise in accepting the inflow of displaced populations

---

<sup>47</sup> *COP26: India PM Narendra Modi pledges net zero by 2070*, BBC, November 2, 2021, <https://www.bbc.com/news/world-asia-india-59125143> (last visited 30 November, 2022).

<sup>48</sup> *COP27 Reaches Breakthrough Agreement on New "Loss and Damage" Fund for Vulnerable Countries*, UNITED NATIONS CLIMATE CHANGE, November 20, 2022, <https://unfccc.int/news/cop27-reaches-breakthrough-agreement-on-new-loss-and-damage-fund-for-vulnerable-countries> (last visited 30 November, 2022).

<sup>49</sup> Fiona Harvey, *What are the key outcomes of Cop27 climate summit?*, THE GUARDIAN, November 20, 2022, <https://www.theguardian.com/environment/2022/nov/20/cop27-climate-summit-egypt-key-outcomes>.

<sup>50</sup> *UNHCR India – Help for Refugees*, UNHCR, <https://help.unhcr.org/india/?lang=en> (last visited 23 October, 2022).

from other nations. India has not signed the 1951 Refugee Convention and its 1967 Protocol. Hence, legally India is not bound to bend down to any related external demands.

Yet, answering the questions raised by Shrikant Eknath Shinde and Helena Vijaykumar Gavit in Lok Sabha on February 2022, Union Minister of Environment, Forest and Climate Change Shri Bhupender Yadav accepted that “there is no established study for India providing a quantified attribution of climate change triggering migration/displacement of people. While many studies monitor extreme events in the environment, the science of attribution of these changes particularly to climate change, is far more complex and currently an evolving subject.”<sup>51</sup> One thing becomes clear from these observations. India is yet to acknowledge completely that climate change is the main driver for human displacement. In spite of that it is accepting population from its neighbouring states, although, in the absence of any clear planning. It is expected that this may lead to ‘*ad hoc* measures such as forced deportation, detention, and selective protection and assistance based on religion, region, gender, and other factors.’<sup>52</sup>

The analysis of such situations is beyond the scope of this article. Rather we prefer to suggest that India has already shown the hint of leadership in developing a regional framework for addressing the climate induced migration. It could have easily forwarded a sovereignty argument. The reason for which India has preferred not to do so, we suppose, is mainly geographical. It shares important international borders with many countries, some of which share the common ancestry and culture as well. In such backdrop, it does not make any sense for India to shy away from humanitarian catastrophe, irrespective of in which side of the border such crisis arises. Only couple of things it needs to do specifically from here on. Firstly, India must ensure the proper application of its domestic environmental laws so that climate catastrophe can largely be mitigated up to a meaningful level. This to certain extent can help India to address the domestic life and livelihood issues arising out of environment related problems. The benefit will be seen in the long run as India can have more space for governance to address the issue, such as inflow of people affected by climate change from other nations. Secondly, India must work out a plan to make its leadership prominent in the South Asian

---

<sup>51</sup> LOKSABHA, QUESTIONS: LOK SABHA (February 2, 2022), <https://loksabhaph.nic.in/Questions/QResult15.aspx?qref=33192&lsno=17> (last visited 23 October, 2022).

<sup>52</sup> Surbhi Arul, *India needs to recognise the rights of climate refugees*, IDR, June 3, 2022, <https://idronline.org/article/climate-emergency/india-needs-to-recognise-the-rights-of-climate-refugees/> (last visited 23 October, 2022).

region when it comes to provide solution to climate migrants. Avoiding the thorny sovereignty dilemma, it can play a leadership role to make its neighbours responsive towards the long-term benefits of shared responsibilities. Overall, the condition is ripe for India to promote an alternative solution to the problem of climate induced displacements and given the climate vulnerability of India and other countries in the South Asian region, it should not be a matter of choice. In fact, more accurately it should be treated as a mandate that emanates from the necessity for the survival of humanity.

## **VI. Conclusion**

To close the discussion, we can say that the construct of state sovereignty in the context of climate migration is in flux. The increasing complexity associated with climate migration demands that there cannot be any stubborn reference to the old notion of state power and control. Surely, the normative foundation should emerge from that growing need of urgent action that potentially and preferably is likely to alter any ontological dogma in favour of selective international dealings. India, being a key player for developing a global climate action plan and strategies, holds the enormous potential to forward an alternative narrative that can infuse the international climate change law in future. For that matter, the regional inclusive model for addressing the climate migration problem that it is already informally advancing holds the key for a better tomorrow. Perhaps, the countries from other parts of the world are watching.

## **REVISITING THE CONCEPT OF PAROLE SYSTEM IN INDIA: CRITICAL ANALYSIS**

Sushree Saswati Mishra

*Research Assistant, KIIT School of Law, Kalinga Institute of Industrial Technology,,  
Bhubaneswar, Odisha, Email: sushreesmishra30@gmail.com*

### **Abstract**

*Crime is a part of our society, but the reaction and response to crime makes different criminal justice system globally. Administration of such criminal justice system plays an important role in shaping the understanding of society's response towards crime and criminal. With changing needs of this globalizing world, the idea of criminal justice system had also made an shift from giving harsher punishments to restorative and reformative justice. Parole is one of such concept of implementing rehabilitation and reformative measures in correctional process of jail reform. It is a reformation which helps the prisoners to reintegrated in the society which helps him in social rehabilitation. Now a days this concept of parole is changing in India. Thus a revisiting to the concept of parole in India is much required. In the Covid-19 pandemic, the overcrowded prisons also an alarm for reformation of parole system in India.*

*This study will be a doctrinal research based on various secondary data available in different books, journals and websites. In this paper, the author will be dealing with the critical analysis of parole system in India, misuse of Parole and very importantly the effect of Covid-19 pandemic and various High court and Hon'ble Supreme Court decision on Parole orders.*

**Keywords** - Parole, Rehabilitation, Prisons, Reformation, Correctional administration.

### **Introduction**

The concept of parole is crucial in the criminal justice system. Based on the good behaviour, while serving sentence, a temporary release that is Parole is given. This concept is offered to the prisoners in order to reintegrated in the society. Military law gave rise to the concept of parole. A temporary release was given to the prisoners so that they can go to their family but will return with a promise when their release period gets over.<sup>1</sup>

Parole is ideal for treatment that includes monitoring, supervision and assistance. Although the parole is granted by the parole officers, the society is actually getting benefit when such

---

<sup>1</sup> Jaytilak Guha Roy, *Prisons and Society: A Study of the Indian Jail System*, GIAN PUBLISHING HOUSE, DELHI, 169 (1989).

prisoners are under vigilance during the release.<sup>2</sup> The paradigm has altered considerably in recent years, with the wealthy and powerful misusing parole to avoid serving prison sentences. Thousands of other offenders, on the other hand, have their parole petitions rejected because they are poor and powerless, lack the resources to use the process, or have been wrongly denied the benefit for trivial grounds.<sup>3</sup>

Now a days this concept of parole is changing in India. Thus a revisiting to the concept of parole in India is much required. In the Covid-19 pandemic, the overcrowded prisons also an alarm for reformation of parole system in India.

### **Conceptualization**

The term “parole” is originated from a French word "je donne ma parole," that means "I give my word," or "word of honour". In 1847 Samvel G. Howe from Boston for the 1<sup>st</sup> time used the word "parole" in a correctional context. Parole was later developed in 1876 by Brockway Zebulon as a way to minimise jail overcrowding while also rehabilitating convicts through their good behaviour. Parole is a monetary compensation given to inmates for good behaviour. It entails a decrease in the number of years and months spent in prison.

Military law gave rise to the concept of parole. A temporary release was given to the prisoners so that they can go to their family but will return with a promise when their release period gets over. Over the years, Parole got its position in India's criminal justice system, by giving a room to the prisoners to spend time with society, but it can only be done once the prisoner had already served a portion of their sentence awarded.

The Positivist School gave root to parole. According to this school, due to certain circumstances, the person commits crime hence that person need a chance to reform and rehabilitate himself. As per the classical school of criminology, people commits crime because of the free will and the offender is actually calculating the pain and pleasure derived from the offence and according work for it. Hence classical school gives no scope for reformation, on the other hand positivist school gave rise to parole concept. Though the prisoners committed crime, we cannot stigmatised that for the whole life and will not give him a chance to reform.

---

<sup>2</sup> J. C. Chaturvedi, *Penology and Correctional Administration*, ISHA BOOKS, NEW DELHI, 8 (2006).

<sup>3</sup> Dr. K Sangeetha, *A Critical Analysis on Law Governing Parole in India*, SCH INT. J LAW CRIME JUSTICE, (2019), [https://saudijournals.com/media/articles/SIJLCJ\\_29\\_263-270\\_c.pdf](https://saudijournals.com/media/articles/SIJLCJ_29_263-270_c.pdf).

Thus Parole's 2 fold goals are - prisoners reformation and making the prisoner a law abiding citizen for the protection of the society and to decrease recidivism.<sup>4</sup>

### **Literature review**

In the article of Mrs. Nayana Medhi and Prof. AK Sinha<sup>5</sup>, they stated parole as an social control weapon which acts more effectively than the punitive system. Here they mean parole as treating prisoners in a humanelly way in order to make them a responsible citizen from a criminal. Thus parole according to them is Social instrument of rehabilitation and Government is implementing more rules and regulation as to the upliftment of humanity in prisoners.

The concept of parole is not a new one to consider, as written by NSSR Murthy, and Dr. MSV Srinivas in India on International Journal of Innovative Research & Development<sup>6</sup>. In this they highlighted how parole is a reforming procedure for convicts to reintegrate into society. It is a process of prisoner's social rehabilitation. The current study examines the notion of parole as well as the Indian parole system. The judicial position on parole as well as other court rulings It also elaborates on steps to prevent the abuse of parole including reconciling social security with human rights via parole.

Furthermore, Dr. K. Sangeetha, in her paper A Critical Analysis on Law Governing Parole in India<sup>7</sup>, where she discussed about parole being an reformative process by giving opportunity to the prisoners. The parole system refers to the process of releasing inmates on parole by suspending their sentences in compliance with the rules in force at the time. Furthermore, she claims that some types of criminals or prisoners are ineligible for parole release. She very clearly described how those convicted of murder, rape of minors, or many murders, among other things, are likewise excluded, unless the issuing authority decides otherwise. She distinguished between parole and furlough and explored their many elements. She has emphasised how parole is primarily an executive function, and that examples of detainees being released on parole were almost unknown until this Court and other High Courts in India issued orders of releasing on parole on humanitarian grounds in recent years.

---

<sup>4</sup> Bruce Vichert and Walter Zahnd, *Parole: Low and High Risk Parolees*, 7(1) CANADIAN JOURNAL OF CORRECTIONS, 39-48 (1965).

<sup>5</sup> Mrs. Narayan Medhi and Dr. AK Sinha, *Parole the reformative instrument of punishment in prisonition*, RESEARCH JOURNAL OF USLR.

<sup>6</sup> NSSR Murthy, and Dr. MSR Srinivas, *Indian Parole System- A Review of Judicial Stand and Critical Issues*, INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH AND DEVELOPMENT, (Aug 2015), [http://internationaljournalcorner.com/index.php/ijird\\_ojs/article/viewFile/135804/94926](http://internationaljournalcorner.com/index.php/ijird_ojs/article/viewFile/135804/94926).

<sup>7</sup> *Id.* at 3.

### **Objective of the study**

In this research paper, the researcher will be focusing on Parole system in India. The objectives behind the study is to -

1. Understand critically the concept of parole in India and need for its reformation.
2. Find case studies on misuse of grant of parole and judicial trend.
3. Analyse orders of Supreme and High court on granting parole amid covid-19 pandemic.

### **Theoretical framework**

There are several ideas that explain how and why parole as a measure of reformation came to be, as well as the rationale for including it into the criminal justice system.

Custody Theory: Parolees must be retained in custody of the warden, parole board, or other executive agency, according to statute. Courts have deduced the custody theory from this. Parole "has the legal impact of imprisonment," and the parolee is "constructively a prisoner...bound by his parole's rules and restrictions." The parolee is "essentially in the same situation as a 'trustee'..."<sup>8</sup>. "A violation of the conditions of his release relegates him to the status of an escaped prisoner. The custody theory, like the others, is frequently used to protect parole cases from judicial scrutiny and review on both non-constitutional and constitutional grounds. The parolee's position is restricted to that of an inmate, and parole is an administrative exercise of the prison's discipline authority, subject to the broad discretion afforded to prison officials when dealing with those entrusted to their care."

Exhausted Rights: This theory is usually connected to parole which consider parole as a part of prison system rather exercising it in sentencing policy. No where the aftermath of the sentence is discussed. But under due process of law as safeguarded by the Constitution of India, certain Prisoner's rights were given until the sentence period get exhausted. This theory wants to relate the parole concept with the exhausted rights given as human rights and constitutional rights especially under Art. 20, which can be safely assured during the stay in the prison. Hence parole being a part of prison can be well explained by this theory rights.

"Parens Patriae: this theory is linked with custody. While we are considering rehabilitation and reformation model of treatment for the prisoners, flexible and discretionary power of the parole granting authority should also be taken into account. "The Board of Parole as an identity

---

<sup>8</sup> *Comment, The Parole System*, 120 UNIVERSITY OF PENNSYLVANIA LAW REVIEW, 282-377, (1971).

of interest with the parolee... to nurture his rehabilitation..." it assumes.<sup>9</sup> The argument serves to insulate the parolee from judicial concern because one does not need to be safeguarded from another who has an identity of interest. This theory's justification and effects are similar to those that have long been used in juvenile law but were recently rejected in *In re Gault*.<sup>10</sup>

### **Research methodology**

This research is based on Qualitative, doctrinal type (non-empirical type of research). Doctrinal research is also known as traditional or pure form of research for acquiring knowledge. Case laws are reviewed and materials are collected from secondary sources. Print and electronic media, such as search engines and internet databases, are also used to gather information about the study. The research design includes the conceptualization of Parole, and will follow descriptive methodology to describe the various issues in this paper. The researcher tried to critically evaluate the study's subject and strives to achieve the study's objectives primarily through the use of books, papers, journals, and other sources of information based on the material and information available.

### **Findings of the study**

#### **1. Understand critically the concept of parole in India and need for its reformation**

The award of Parole in India is governed by the legislation issued under the Prison Act of 1894 and the Prison Model of 1900. Each state has its own set of parole rules that are slightly different from one another. The two sorts of parole are custodial and regular parole. In emergency cases, such as a family death, critical illness, or a family marriage, custody parole is granted. It is limited to a twenty-four-hour period. During this time, the prisoner is escorted to and from the visitation location. The Superintendent of Jail grants release after obtaining proof of the circumstances from the concerned police station. "The idea of parole, as established in the case of *Budhi v. State of Rajasthan* (2005), serves three purposes:"

1. "As a motivator for prison inmates to change their ways."
2. "Ensure that the prisoners' family relationships are as intact as possible, as they may be prone to fracture as a result of the prisoner's protracted confinement."
3. "Assist the offenders in gradually assimilating into society and adapting to its folds."

---

<sup>9</sup> *Menechino v. Oswald*, 430 F.2d 403, (1970).

<sup>10</sup> *In re Gault*, 387 U.S. 1 (1967).

Section 432 of the Criminal Procedure Code of 1973 governs the power to suspend or remit sentences. The Supreme Court said specifically in *Sunil Fulchand Shah v. Union of India*<sup>11</sup>(2000) that "parole does not imply the suspension of punishment." As a result, it's clear that the Criminal Procedure Code's Section 432 does not apply to parole. Parole comes under state list hence we no uniform laws present to govern it. As a result, when it comes to parole concerns, there is some ambiguity. India lacks codified parole legislation as compare to US and UK and the ability to rule on parole concerns is based primarily on statutes and decisions. As a result, India need strong parole legislation.

## **2. Judicial Trend of the grant of Parole**

As stated in the case, "Parole, a penological innovation, is hailed as a success in terms of rehabilitation and reducing recidivism"<sup>12</sup>. Later the view of the Indian judiciary in *Mohinder Singh*<sup>13</sup> case, "A conditional release of a prisoner, often under the supervision of a parole officer, who has served part of the term for which he was condemned to jail." Parole refers to a temporary release which can only be given after some period of the sentence is served and there is no suspension during this phase rather once the prisoner return will compensate back those release period<sup>14</sup>.

In *Babu Singh and Ors. v State of U.P.*<sup>15</sup> the court stated that, if the state is of flexible nature parole for longer period can be issued which is way better than giving full bail as here we have vigilance over the prisoner, Justice Krishna Iyer said. Keeping a person in harsh and inhuman condition not only harm the persons physically also mentally. Hence to maintain human vibes as accepted in constitution, Parole system is important<sup>16</sup>.

In the case of the Election Commission of India vs. *Mukhtar Ansari* (2017), the Delhi High court, stated that we should not confuse bail and custody parole and neither should take daily visit or long period time in Parole. Similarly in *Babulal Das v The State of West Bengal*<sup>17</sup>, The Court emphasized on the benefit of parole. By using Parole, the convicts and the under trials must get a chance of reformation by short term release. This will not only help the convict but also will help the society if exercised in a proper manner. In the case of *Inder Singh v. The*

---

<sup>11</sup> *Sunil Fulchand Shah v. Union of India & Ors*, (2000) MANU/SC/0109/2000 (India).

<sup>12</sup> *Krishan Lal v. State of Delhi*, AIR 1976 SC. 1139.

<sup>13</sup> *State of Haryana & Ors. v. Mohinder Singh*, (2000) MANU/SC/0073/2000 (India).

<sup>14</sup> *Joginder Singh v. State of Punjab*, (2001) 6 SCALE 280.

<sup>15</sup> *Babu Singh and Ors. v State of U.P.*, (1978) CriLJ 651.

<sup>16</sup> *Gudikanti Narasimhulu and Ors. v. Public Prosecutor, High Court of Andhra Pradesh* AIR 1978 SC 429.

<sup>17</sup> *Babulal Das v The State of West Bengal*, AIR 1975 SC 606.

State (Delhi Administration)<sup>18</sup> the Court has emphasized on how to use parole judiciously even in cases of grievous nature.

In the case of *C.A. Pious v The State of Kerala and Anr.*<sup>19</sup>, the court discussed the scope of imprisonment and stated, "In our view, penal humanitarianism and rehabilitative desideratum warrant liberal paroles, subject to security safeguards, and other humanising strategies for inmates so that the dignity and worth of the human person are not desecrated by making mass jails anthropoid zoos," Institutional transformation and the search for alternatives must be infused with human rights awareness. "Section 433A Cr PC does not prohibit parole or other release during the 14-year period," it continued.

It was again seen in a recent case of *Sanjay Kumar Valmiki v. State of NCT of Delhi*<sup>20</sup> (2020) "Whereas parole is a discretionary exercise, furlough is a favourable privilege of the offender to be considered for release, which the convict can claim if he fits the Act's and Rules' standards." In emergency instances, beside parole, furlough can be given if it meets the conditions. Only based on annual good report prisoner is allowed furlough where the period will no more be compensated rather will be suspended for that short period only as stated in 1171 to 1178 of the Delhi Prison Rules, 2018 and Rule 1223.

### **Misuse of Parole: A route of Escape and Re-offending**

Its been a long time we are discussing about the concept on parole and different judicial judgement and trend that developed the use of parole as a reformative tool going beyond the negative impact of prison life. But then the main concern arise as to the implementation and actual functioning of parole system in India. The most highlighted case of Manu sharma misusing the parole questioned the jail management as well as the role of state in approving parole in jessica murder case.

In *Sidharth Vashisht @ Manu Sharma v The State (N.C.T. of Delhi)*<sup>21</sup>, Jessica was murdered by Manu Sharma at 2 a.m. on April 30, 1999. Manu came from a well-connected political family. The Delhi High Court condemned him to life in jail and fined him on December 20, 2008. He was granted one-month parole on September 24, 2009. It was later extended for another month. Manu Sharma requested parole for three reasons stating that he will attend last riot ceremonies of grandmother, to take care of her mother who is ill and to protect the family's

---

<sup>18</sup> *Inder Singh v. The State* (1978) 4 SCC 161.

<sup>19</sup> *C.A. Pious v The State of Kerala and Anr* AIR 2007 SC 3221.

<sup>20</sup> *Sanjay Kumar Valmiki v. State of NCT of Delhi*, (2019), W.P (CRL) 2049.

<sup>21</sup> *Sidharth Vashisht @ Manu Sharma v The State (N.C.T. of Delhi)* AIR 2010 SC 2352.

commercial interests as the majority stakeholder of Piccadilly Industries. On the 10th of November, 2009, he was apprehended in a Delhi pub, where he was enjoying his nightlife, which was highlighted in the newspapers. Also the parole granted for the visit to sick mother, who was found attending various event and parties throughout Delhi<sup>22</sup>. After further investigation, it was found the leave granted for grandmother death was also a lie as his grandmother already died in 2008 before a year and 7 month back. Even after all these reported incident, the High Court granted him 5 days leave for brother's wedding in November 2011, but only on the condition that he not go to any clubs or discos. Justice VK Shali cited his behaviour while on parole, stating that he went to discotheques in violation of his parole requirements. 'He doesn't have to attend all (wedding activities),' Shari had said earlier when denying his bid for release from November 10 to November 20. The Delhi Police, on the other hand, reversed their previous position of opposing Sharma's parole. The Delhi Police had objected to Sharma's request in a previous document filed with the court last week, claiming that his "prior conduct did not entitle him to parole."<sup>23</sup>

This created a feeling of dozen among the other inmates of the jail. Being wealth and powerful was never a condition for parole but repeatedly the petition of parole of poor inmates were got rejected even if it have genuine reason to leave. On the other hand hardly rich and affluent people serve their sentence in jail. When Manu sharma even after violating rules were given parole it was a concern for the authority to now check its misuse<sup>24</sup>. as per an report by 2009 only 11 prisoners were granted parole out of 132 applications<sup>25</sup>.

Bibi Jagir's Kaur is another case where she was sentenced to jail for 5 years, for playing an important role in kidnapping her daughter. But just after 4 months in prison she was given parole and received many comforts as she was a former Punjab Cabinet Minister<sup>26</sup>.

Biti Ghotra Mohanty is the most discussed parole case. Here the son of the DGP Odisha was convicted for raping a German national for seven years of imprisonment. Later he was given a period of 15 days as parole in 2006 as his mother was ill. His father stands for his surety but

---

<sup>22</sup> *Jessica Lall Murder Case: Manu Sharma granted Parole*, The Times of India (New Delhi), (Nov. 16, 2011), [https://articles.timesofindia.indiatimes.com/2011-11-16/india/30405164\\_1\\_30-day-parole-manu-sharma-parole-application](https://articles.timesofindia.indiatimes.com/2011-11-16/india/30405164_1_30-day-parole-manu-sharma-parole-application).

<sup>23</sup> *Manu Sharma gets 5 day Parole despite Violations*, Tehelka, (16 Nov. 2011) [https://www.tehelka.com/story\\_main50.asp?filename=Ws161111JESSICA\\_MURDER.asp](https://www.tehelka.com/story_main50.asp?filename=Ws161111JESSICA_MURDER.asp).

<sup>24</sup> *Parole And Prejudice*, 6 TEHELKA MAGAZINE, (2009), [https://www.tehelka.com/story\\_main43.asp?filename=Ne281109parole\\_and.asp](https://www.tehelka.com/story_main43.asp?filename=Ne281109parole_and.asp).

<sup>25</sup> *Amend Laws to prevent parole misuse*, HARDNEWS, <https://www.hardnewsmedia.com/2009/11/3347>.

<sup>26</sup> *After four months in jail, former Punjab minister JagirKaur given parole*, NDTV, (2012), <https://www.ndtv.com/article/india/after-four-months-in-jail-former-punjab-minister-jagir-kaur-given-parole-252765>.

later he escaped and his father said he didn't had any idea about this incident. After almost 7 years he was found in Kerala with a different identity. After investigation and police apprehension, when he was brought back to Odisha his father denied to recognize him. High Court judge immediately order DNA testing to find the true identity of the convicted person.

After this with due inquiry a report was made by the Comptroller and Auditor General (CAG) which stated that there was no misuse of Parole rather parole became the most convenient way to escape by majority of the inmates. "The auditor obtained records from the Amritsar Central Jail and four Superintendents of Police and discovered that between May 2001 and May 2008, more than 8,200 prisoners convicted of serious crimes under the NDPS Act, such as murder, rioting, and carrying deadly weapons, were released on parole but did not surrender even after their parole period had expired"<sup>27</sup>. The police have a poor track record in catching parole violators. Between 2007 and 2011, just 310 people were re-arrested in Maharashtra, 80 in Punjab, and 14 in Uttar Pradesh. "It's not a big problem if you skip parole. Even persons convicted of serious crimes can simply acquire no-objection certifications regarding their character and be eligible for parole. "From there, it's only a matter of not reporting back to prison," a senior IPS official explains<sup>28</sup>.

Grant of Parole also provides a dangerous opportunity to the convicts to commit crime again if proper vigilance was not done. Taking the example of the case Saibanna v State of Karnataka<sup>29</sup>, the convict was awarded with the life imprisonment for murdering his 1<sup>st</sup> wife. He was granted parole and during her temporary release he again murdered his 2<sup>nd</sup> wife and child by inflicting 21 injury to them. The Supreme Court here accepted the fact that this is a case of "rarest of rare case" which contain such grievous and heinous crime while on a release in Parole. Krishan v State of Haryana<sup>30</sup> is yet another instance, when the accused again did a murder while on parole leave for his 1<sup>st</sup> conviction sentenced to life imprisonment.

Thus analyzing these cases, it is quite clear as to how effluent people misuse parole for own purposes. This not only affects the society but also creating a question in the mid of poor inmates who could ever get parole for genuine reasons. Also it shows the implementation and jail authority capacity which is actually very weak, as a result of which we see such mishaps

---

<sup>27</sup> Pradeep Thakur, 60% convicts don't return after parole, TNN, (2009), [https://articles.timesofindia.indiatimes.com/2009-11-13/india/28082072\\_1\\_cag-parole-absconding-prisoners](https://articles.timesofindia.indiatimes.com/2009-11-13/india/28082072_1_cag-parole-absconding-prisoners).

<sup>28</sup> Maharashtra tops Parole jumper's List, TOI, (2012), [https://articles.timesofindia.indiatimes.com/2012-06-05/india/32054766\\_1\\_parole-rules-parole-jumpers-ips-officer](https://articles.timesofindia.indiatimes.com/2012-06-05/india/32054766_1_parole-rules-parole-jumpers-ips-officer).

<sup>29</sup> Saibanna v State of Karnataka, (2005) JT 5 S.C. 564.

<sup>30</sup> Krishan v State of Haryana, (1997) CriLJ 3180.

to be happened in our society. Not just these cases, there are no of cases every year where such misuse is happening still we don't have any mechanism to check this now we had stringent laws to solve it. Hence this became a matter of great concern to be addressed soon.

### **3. Grant of parole in COVID-19 pandemic**

We all are now suffering with an very dangerous and widely spread virus, Coronavirus, in this pandemic period. People with various diseases are vulnerable to such virus<sup>31</sup>. The virus is active in crowded places, which we can well found in Jails with many prisoners. Many prisoners all over the country applied for bail or parole just to avoid overcrowding and for not getting affected by this life threatening virus. Jails are the most risk place. As a result, India's Supreme Court issued an order requiring states and union territories to release offenders on parole as soon as practicable, taking into account the nature of the crime.

Indian prisons hygiene and over crowd was always in question. Especially in such pandemic it became a concern for the state and central Government. Hence the Parole order of Hon'ble supreme court also lead to many confusion as to who and under what conditions the parole an be granted and for how many days<sup>32</sup>. according to this judgement Convicts must be released based on the seriousness of the crime they committed or the amount of time they must serve their sentence. Another problem that occurred is the age of the offenders along with their risk of catching virus due to the health conditions or previous medical records. Hence if the criteria will be seriousness of the offence, then these people cannot considered in this<sup>33</sup>. Along with that in the supreme court judgement it was further stated that the state is not required to provide transfer facilities in case the parolee is released under this judgment criteria. The order gave discretion to the state govt. To release on parole but the criteria will be on "the type of offence, the number of years he or she has been condemned to, or the gravity of the offence."

Hence affected by the judgement, a PIL was filled before the Bombay High Court, challenging the classification under Article 14 of the Indian Constitution by referring the case National Alliance for People's Movements Through its National Convener and Others v. Maharashtra State Through its Additional Chief Secretary and Others<sup>34</sup>. Because there was no "sanction of

---

<sup>31</sup> *If You're at a Higher Risk*, HAVARD PUBLICATION, (2020), <https://www.health.harvard.edu/diseases-and-conditions/if-you-are-at-higher-risk>.

<sup>32</sup> In Re: Contagion Of Covid 19 Virus in Prisons, Suo Motu Writ Petition (Civil) No.1/2020, [https://main.sci.gov.in/supremecourt/2020/9761/9761\\_2020\\_1\\_8\\_21570\\_Order\\_23-Mar-2020.pdf](https://main.sci.gov.in/supremecourt/2020/9761/9761_2020_1_8_21570_Order_23-Mar-2020.pdf),

<sup>33</sup> *Report of the All India Committee on Jail Reforms* (1980-83), vol.1, para 3.17.

<sup>34</sup> National Alliance for People's Movements Through its National Convener and Others v. Maharashtra State Through its Additional Chief Secretary and Others, SLP (CRL) NO.4116 (2020).

law traceable either to a legislation of the competent legislature, or to an order having the force of law which the executive has authority to make, or to a law declared by the Supreme Court binding on all inmates," the question of whether inmates were entitled to emergency parole as a right was considered in light of the pandemic.

### **Response to Supreme Court's order by different states**

According to a report provided by the Commonwealth Human Rights Initiative, states released around 22,000 convicts by the virtue of Supreme Court's order on the pandemic. Based on the Supreme Court's order different states issued directives. As per the J&K High court, "A person who has been convicted in one case and has served more than ten years in prison (eight years and five months in the case of a woman), except in cases involving militancy, the NDPS Act 1985, the POCSO Act, or crimes against women, acid attacks, or foreign nationals, can be considered for special parole."

Similarly the Allahabad High Court and the Rajasthan High Court added one more criteria that the offender have to deposit 2 surety bonds before being released on parole, declaring that "the aim of the order of parole shall be defeated otherwise due to the unique conditions of a statewide lockdown". The Rajasthan High Court accepted the criteria given by the supreme court regarding the grant of parole depending on the type and severity of crimes they committed. "Special parole can be offered to some types of offenders," the court found, "and such a rider cannot be regarded unconstitutional if the benefit is not given to persons who have been convicted of offences affecting the State or grave offences."

"The UP High Power Committee had requested that the interim bail of 14,854 under trial prisoners be extended for another eight weeks on May 27, 2020. The High Court of Madras cancelled the parole orders of 11 convicts who were released from cells following a March 26, 2020 order by a coordinating bench to decongest prisons in the aftermath of the COVID-19 outbreak." "The Bombay High Court quashed and set aside the Superintendent of Kolhapur Central Prison's orders denying three applicant convicts parole, stating that the amended parole rule, which states that convicts with a maximum sentence of more than 7 years may be considered for release on emergency parole if they have returned to prison on time on their previous two releases, is only applicable if the convict has returned to prison on time on their previous two releases, is only applicable if the convict has returned." "This ruling was eventually upheld in the case of *Milind Patil vs. Maharashtra (2020)*<sup>35</sup> The authority must

---

<sup>35</sup> *Milind Patil vs. Maharashtra*, W. P NO.3612 (2021).

proceed on the presumption that the parole period will be automatically extended unless the Court has expressly stated that the parole period will not be prolonged beyond that time in another matter before this Court.”

In the case of *Pintu vs the State of Maharashtra*<sup>36</sup> (2020), the full bench of Bombay High Court, said persons convicted under POCSO Act are not entitled to emergency parole on the ground of Covid 19 by citing the High Court's decision in *Sardar s/o. Shawali Khan vs. The State of Maharashtra & Anr* (2020). “The Supreme Court had extended AG Perarivalan’s parole for a week and ordered the state of Tamil Nadu to provide an escort for his medical tests. Perarivalan was convicted in the 1991 assassination of former Prime Minister Rajiv Gandhi.” In *Pradeep vs. the State of Delhi*<sup>37</sup>, the court held that no distinction can be made between convicts who were released on parole by the jail authorities and those by court orders. Along with that due to the pandemic of COVID-19, the Delhi High Court's High Powered Committee met on May 6, 2021 to discuss, “to take steps to prevent the outbreak of COVID-19 inside jails and to ensure social distancing inside prisons by identifying and determining the class or categories of prisoners who can be released on interim bails or paroles once again.”

“In accordance with a Supreme Court of India order of May 7, 2021, the High-Powered Committee for the states of Uttarakhand and Haryana issued 90 days of parole to criminals who had previously been granted parole. It's worth noting that the Supreme Court instructed the High Powered Committee of the States to release all of the inmates who had previously been released under the Supreme Court's March 23, 2020 order as soon as possible, subject to certain conditions along with the fresh release.”

### **Discussion on the findings**

In criminal law, parole is the release of an offender from jail on the condition that he adhere to specific restrictions. It is a discharge from jail after serving a portion of the term, with the prisoner staying in prison and subject to stipulated restrictions until released, and entitled to return to the facility if any of these terms are violated. Parole is a means of choosing and conditionally discharging convicts from prison when their terms expire in order to aid and regulate them throughout their journey from jail to the society.<sup>38</sup>

---

<sup>36</sup> *Pintu vs the State of Maharashtra*, CR. APL NO.515 (2016).

<sup>37</sup> *Pradeep vs. the State of Delhi*, CR. REV. No. 199 (2019).

<sup>38</sup> David Biles (Ed.), *126 Crime and Justice in Australia*, (1977).

One importance of parole would be that it allows the convict to have a free social life while still maintaining some direct control on them. Every prisoner is carefully examined, and those who respond well to the institution's regulated existence and demonstrate the ability to change their attitudes are given substantial leeway and eventually freed to reenter free and open society under restricted terms.<sup>39</sup> As a result, parole is primarily a customised technique of therapy that envisions a final stage of the detained prisoner's reintegration into society.

There is no uniform parole laws and only based on the recommendation of different prison reform committees and supreme court guidelines, laws are made by various states basing solely on them. The action for granting parole in our nation is, in generally, an official activity. The Delhi Prisons Act of 2000 defines "parole system" as "the scheme of freeing inmates from jail on parole by suspending their sentence in compliance with the laws." It's impossible to pin down a single specific definition of parole. It is a crucial component of the whole rehabilitative procedure. In a way, parole is a technique of selecting discharging criminals from prisons and placing them under intensive supervision, with the community receiving continued security while the criminal adjusts and begins to participate in society.<sup>40</sup>

### **Conclusion**

The notion of parole ought to be freedom and moral freedom in order to foster social tolerance and affection. Fake police reports, inconsistency in made in order on extraneous grounds, and abuse of power and status should all be prevented in parole. It is critical to evaluate the present Parole system and processes and give them serious attention so that the deserving are not denied.

A Policy is Required; Rehabilitation necessitates a directed come back to the obligations of living in a free country. A parole system is likely to be logical and necessary in this context. A parole system can operate without the presence of a jail or correctional facility. Parole isn't only a way to relieve the jail population's strain. It is the final phase in the jailed offender's reintegration into society. It is a component of a therapy plan that begins with detention at a facility.<sup>41</sup>

It is followed by effective stages in education for just a trade and a free social activity in the institution, with supervision progressively eased when the prisoner displays correction of his

---

<sup>39</sup>Charles L. Newman, *Source Book on Parole and Pardons*, 73 (1970).

<sup>40</sup>N.V.Paranjape, *Criminology and Administration of Criminal Justice*, 177 (1970).

<sup>41</sup>Thomson Douglas, *Prisons, Prisoners and Parole*, West Thomson Reuters publications, 325 (2013).

behaviour. As can be seen, parole is not something that can be overlooked. It serves as a correctional facility between the world and the prison. Its purpose is to modify. It is an offers the perfect and therapy response to crime because it provides the parolee with a succession of chances to educate oneself for a productive life and social.

It is widely acknowledged that intense political and administrative pressure has impeded the effectiveness of parole administration. As just a consequence, many unsuitable offenders are granted parole, and the goal of the programme is frequently undermined. In terms of parole, a clear judicial policy is required, and the executive responsibilities performed ought to be subject to judicial review. It is past time for our legislators to make the required adjustments to enhance our Criminal Justice System, including developing strong guidelines for implementing the supervised release system in a progressive way for the betterment of civilization among inmates, demonstrating that it is a powerful tool for rehabilitation by formulating uniform parole laws and to put check and balance for the misuse of parole in India. This Pandemic period, and the over crowding of jails should be the matter of concern for the government and should be look into immediately.

**STOCKHOLM +50 OUR RESPONSIBILITY TOWARDS  
SUSTAINABILITY AND HEALTHY PLANET FOR ALL – A STUDY  
WITH SPECIAL REFERENCE TO INDIA**

Dr. Susmita Dhar

*Assistant Professor of Law, Sister Nivedita University, Kolkata, Email:  
susmitadhar00@gmail.com,*

**Abstract**

*The world community has started its concern towards environmental protection much from 1972 Stockholm conference in order to protect people and planet. Sustainable development was the main principle which was adhered in this conference and the principles of Stockholm were dealt with environment, action plan for protection of environment, proposal for observing of a world environment day to be observed, resolution for the nuclear weapon test, resolution for convening a second conference, the declaration of human environment etc. Human environment and the declaration of human environment was the first and foremost achievement having 26 principles towards sustainable future. India with 122 nations attended ratified the conference. After Stockholm the global community continues to search towards better environmentalism through RIO 1992, RIO +5, RIO +10, RIO +20, establishment of UNFCCC, IPCC etc. To maintain sustainability the global citizens having responsibility to protect and preserved our Mother Earth as ‘we have no planet B’. We need to protect our Mother Earth with utmost responsibility and to secure healthy environment for all with prosperity and peace.*

*After 50 years of Stockholm we are facing so much threat to protect our environment one of them is climate change and unsustainable use of the Earth. We all the multi stakeholders and inhabitant of this beautiful habitat, we have the responsibility to protect our planet and secure healthy sustainable future for all. Covid 19 is threatening our right environment and sustainability in the era in globally and regionally. India is a developing nation and committed towards a sustainable future and taking the pledge towards healthy environment for all from Stockholm. In this era of climate crisis India and other nation having the responsibility towards the collective future by rebuilding, trust and value. If a new dawn is to be our goal all the nations of Global North and South should be connected and contributed towards a sustainable future.*

**Keywords:** Stockholm +50, Human Right to Life, Sustainability, Healthy Planet for All, India.

## **Introduction**

Sustainable development is the core issue of environmental jurisprudence especially in early seventies in Cocoyoc Declaration on environment. It includes intergenerational equity and integration of development and environmental continuity. The environment and development should be for people, planet and profit. Sustainable development in its facet consists of three pillar which includes Environmental law, International Human Rights Law and International Law relating to Economy. The Stockholm declaration on human environment 1972 can be seen as an awakening of the world community towards environmental protection. The convention starts of 5<sup>th</sup> June 1972 which last up to 16<sup>th</sup> June is declared as World Environment Day. So the main contribution of Stockholm is to provide new procedure to be followed for the protection of environment, proposal of conducting 2<sup>nd</sup> conference, unanimous call for state directions for action at national level, the declaration of human environment etc. The emphasizes on the Humanity as a part of Environment is one of the most important aspect of the Stockholm conference 1972. It is divided in two parts – first part deals with seven truths and interrelation of man and his environment and part two deals with 26 principles. The first part contains general observation as man is both the creator and molder of his environment which gives in physical sustenance and affords the opportunity of growth in every aspect. The protection and improvement of people and planet is an important issue in the World. Part two of the declaration contains principles which are 26 in total. The Conference of 1972 is a remarkable chapter in protection of the environment containing official agenda for all nations' state. There are two conflicting approach in this Conference (1) primary concern is on the human impact on human environment. It contains control of pollution and conservation of natural resources, (2) second approach emphasizes on social and economic development. Environmental continuity and sustainability bridged the two conflicting interest. It was a remarkable incident as 114 nations gathered and ratified the principles which combined the World in just one environment. India is the signatory of the Stockholm Declaration as a developing country and taking pledge to implement the plight of Stockholm it its municipal arena. Stockholm ended fifty years back but its impacts after fifty years is still the force of our environmental continuity and the World history of Environmental protection has been reshaped with the prudent dictate of Stockholm. In this article the author through doctrinal methodology tries to discuss Stockholm and its impacts even after fifty years of its implementation to protect the healthy environment for all. The hypothesis of my research is that though Stockholm was the first of its kind bring a strong environmentalism in the mind of global citizens all the principles are not properly implemented

in World Scenario with strict procedure. Unless and until we having any common law for all to implement the conventions in international scenario the goal set forth by this convention cannot achieve fully.

### **Stockholm Conference and Sustainable Development**

Stockholm declaration talked about sustainable development which is a strategy for economic and social development with a balance towards natural resources protection. So development and environment will go hand in hand and human right to life and environment is under the consideration. The present human beings are liable to protect natural resources for the descendants who will enjoy their right to life and right environment in a future date. So we not only consider present and past we have to think about future and their right to life and protection of it. For the benefit of the future generation the present generation should exploit nature in a modest way so that heritage of the mankind will be protected in continuity. So RIO Principle 1, 2, 3, 4, 11, 13, 14, 15, 16, and 18 talked about sustainable development in a broader way. The concept of sustainable development also taken into consideration in 1980 when ICUN prepare World conservation strategy. According to Brundtland Commission Report 1987 “*sustainable development is a development that meets the needs of the present without compromising the ability of future generation to meet there own needs*”.<sup>1</sup> Sweden in 1968 suggested for convening an International Conference on Environment under the aegis of UNO on the problem of human environment. It was sanctioned by the UN authority and the Secretary General endorsed by Economic and Social Council. In general debate speakers emphasized of the declaration and some are in favor of the adherence of the principles without amendment. Somewhere accepting it with dissatisfaction as it was inadequate of the developing countries.<sup>2</sup> The Principles of the Stockholm Declaration was a milestone in the history of human environment protection though Soviet Russia, Cuba, Romania was not there in Conference. Principle 2 of the Stockholm Declaration talks about natural resources of Earth including water, air, land, and ecosystem should be safeguarded for the present and future generation. This includes intergenerational equity also the main contribution was introducing two important doctrine precautionary principle and polluter pay principle into the environmental jurisprudence. Article 18 provides science and technology and their impact to development

---

<sup>1</sup> Our Common Future - The World Commission on Environment and Development, 43 (1987). See also Centre for Environmental Law, *World Wide Fund-India v. Union of India*, (2013) 8 SCC 234. Available at DR. PARAMJIT S. JASWAL, DR. NISHTHA JASWAL, VIBHUTI JASWAL, ENVIRONMENTAL LAW, (Allahabad Law Agency, Faridabad, Haryana, 4<sup>th</sup> Edition).

<sup>2</sup> U.N.Doc.A/conf.48/t4,at831972.

should be applied to the identification avoidance and control of environmental risk and solution to the environmental problem for common good. Principle 21 opens the legal control regarding acid rain, greenhouse gas effect, ozone depletion etc. Principle 19 of the Stockholm Declaration emphasized on environmental education for the young generation. Various principles like principle 22, 24 and 25 talks about cooperative spirit of all countries in handling environmental problem. All this 26 principles are for betterment of human health and human environment. India was a signatory the Stockholm Declaration and the then Prime Minister Mrs. Indira Gandhi created enormous impact over the minds of the people through her deliberation. Principle 26 talks about the prohibition of the nuclear weapons through the cooperation of the states. In protection and improvement of environment the state parties in International arena should cooperate with liability and apply all the principles in there municipal arena it was the dictate the Stockholm Declaration.

### **Human Right to Environment and Sustainability Meaning, Concept and Issue**

The UN General Assembly (UNGA) recognized the right to clean healthy environment as a human right. The resolution (A/76/L.75) notes that right to environment is a human right under the International Environmental Law. The United Nations Human Right Council (UNHRC) in 2021 recognizes right to clean, healthy and sustainable environment. The crisis of climate change pollution and biodiversity loss are causing destruction in human right to life and right to environment. According to UN Secretary General the resolution creating history and will help to reduce in justice in environmental arena and defend environmental human rights of children, youth, women and indigenous people in this planet.<sup>3</sup> Human right and environment are interrelated issue. Sustainable development is the prerequisite of enjoyment of human rights as declared by the UN and the judiciary time to time. A protected, clean and good fresh environment and sustainable development is the core facet of human rights jurisprudence as just fair and reasonable issue. Environmental rights are measurable, transparent, functional, and relevant towards the progress the society and ecology. Our present is the continuation of the past future is the continuation of present.<sup>4</sup> The Stockholm Declaration, Montreal Protocol,

---

<sup>3</sup> UNGA RECOGNIZES HUMAN RIGHT TO CLEAN, HEALTHY, AND SUSTAINABLE ENVIRONMENT, Available at [https://sdg.iisd.org/news/unga-recognizes-human-right-to-clean-healthy-and-sustainable-environment/#:~:text=UNGA%20Recognizes%20Human%20Right%20to,News%20%7C%20SDG%20Knowledge%20Hub%20%7C%20IISD&text=The%20UNGA%20adopted%20the%20resolution,zero%20against%2C%20with%20eight%20abstentions,\(Last%20visited%2009/11/2022.\)](https://sdg.iisd.org/news/unga-recognizes-human-right-to-clean-healthy-and-sustainable-environment/#:~:text=UNGA%20Recognizes%20Human%20Right%20to,News%20%7C%20SDG%20Knowledge%20Hub%20%7C%20IISD&text=The%20UNGA%20adopted%20the%20resolution,zero%20against%2C%20with%20eight%20abstentions,(Last%20visited%2009/11/2022.))

<sup>4</sup> Due to the agricultural chemicals, solvents and mercury, which flowed into the Rhine River during a warehouse fire in Switzerland, millions of fish were killed and the drinking water in the Federal Republic of Germany and

on Ozone Layer, Brundtland Commission, Earth Summit, Agenda 21, UNFCCC, UNCBD, IPCC, Kyoto Protocol, SDG Goals, and MDG Goals all talked about sustainable development. The term “sustainable development” was defined the Brundtland Commission in its seminal 1987 report *Our Common Future*. It is a development that balances the needs of the present with future without losing the future generations Right to enjoy Environment..<sup>5</sup>

### **Salient Principles of Sustainable Development**

Sustainable development is needed to face extreme weather events which cause loss of Biodiversity. Disaster may cause barrier to sustainable development goals. We need trust; transparency effective measure to achieve sustainable development .Relationship with nature should be maintained will pave the way of sustainable development. Some important principles of sustainability are Inter – Generational Equity; The Precautionary Principle; (5) The Polluter Pays Principle.<sup>6</sup> In India according to Article 21 of the Indian Constitution right to life includes right to environment. The judiciary in *M.C. Mehata* cases specially re-imposed the idea of the protection of environmental right as fundamental right which are also human rights. In *Rural Litigation Kendra Deheradun v. State of U.P.* Air 1985 the Supreme Court held the protection of environment is the paramount consideration. It also established that fundamental rights and right to life would be meaningless without healthy environment. The judicial creativity now liberated the locus standi rule and include right to life in healthy environment under Article 21 as a human right and implementation of it through PIL Mechanism.<sup>7</sup>

### **Stockholm and its implementation**

Environmental protection in every country is based on a highly developed environmental jurisprudence of their municipal arena as well as through convention treaty directives policies principles of International communities. So International Law and Municipal Law both have contribution towards protection of environmental in global, regional and local level. The term

---

the Netherlands was threatened. Available at DR. PARAMJIT S. JASWAL, DR. NISHTHA JASWAL, VIBHUTI JASWAL, ENVIRONMENTAL LAW, (Allahabad Law Agency, Faridabad, Haryana, 4<sup>th</sup> Edition).

<sup>5</sup> *Our Common Future – The World Commission on Environment and Development*, 43(1987). See also Centre for Environmental Law, *World Wide Fund – India v. Union of India*, (2013) 8 SCC 234. Available at DR. PARAMJIT S. JASWAL, DR. NISHTHA JASWAL, VIBHUTI JASWAL, ENVIRONMENTAL LAW, (Allahabad Law Agency, Faridabad, Haryana, 4<sup>th</sup> Edition).

<sup>6</sup> See *Vellore Citizens’ Welfare Forum v. Union of India*, (1996) 5 SCC 647 at 658. (This case is popularly known as *Tamil Nadu Tanneries case*). Available at DR. PARAMJIT S. JASWAL, DR. NISHTHA JASWAL, VIBHUTI JASWAL, ENVIRONMENTAL LAW, (Allahabad Law Agency, Faridabad, Haryana, 4<sup>th</sup> Edition).

<sup>7</sup> See Paramjit S. Jaswal, “Development in Environmental Law : The Case of India,” *Proceedings of the Workshop on Development and Planning*, Vol. II, SOAS, the Centre for Asia and Africa, University of London, London (January 6<sup>th</sup> to 18<sup>th</sup>, 1992). Available at DR. PARAMJIT S. JASWAL, DR. NISHTHA JASWAL, VIBHUTI JASWAL, ENVIRONMENTAL LAW, (Allahabad Law Agency, Faridabad, Haryana, 4<sup>th</sup> Edition).

environment means “to surround”. So all our surroundings human being, all species, flora, fauna, tree, water, air, lake, mountains, biotic, a biotic components all includes in the term environment. These are actually natural environment; we also have manmade environment comprising of park, garden, building, road, bridges etc. “environment means surrounding .which contains Water, Air and Land and the inter-relationship with Human Beings, other Living Creatures, Plants, Micro Organisms and Property.<sup>8</sup> Stockholm 1972 was the first attempt of this time to preserve environment internationally and spreading awareness of various environmental problems in International scenario. United Nations department of Economic and Social Affairs (UN–DESA) produce a report on sustainable development on 21<sup>st</sup> century project to construct the idea of sustainable development and its implementation. The project funded by the European Commission talked about RIO Conference and its implementation. Sustainability principle was first stated in Stockholm and reiterated on RIO after 20 years so Stockholm can be seen as the source of RIO Convention and sustainability. All human beings having right to equality and environmental rights as human rights. Through enacted legislation in municipal arena the state parties recognize the principles of the declaration. Principle 2 of the RIO convention is inspired from Stockholm Declaration which talks about the demonstration and sustained commitment of the principle between the member states. That talks about the nation states can exploit their natural resources with responsibility so that the outside jurisdiction of their nation state and environment of the area are not damaged. Principle 2 provides a right for states to exploit their own resources. The establishment of Reducing Emission from Deforestation and Forest Degradation (REDD) scheme under the UNFCCC can be seen as an example of international commitment. The state parties are bound by national sovereignty of other nation’s state. International cooperation and prevention of environmental harm as a Tran’s boundary issue which was implemented through Stockholm and RIO. International court for environment and its establishment was dictated in Pulp Mills on the River Uruguay.<sup>9</sup>

**Stockholm and its implementation in India:** “You know that India is one sixth of the global community. Our development needs are enormous. Our poverty or prosperity will have direct

---

<sup>8</sup> LEGISLATIVEDEPARTMENT, THE ENVIRONMENT (PROTECTION) ACT, 1986, <https://legislative.gov.in/actsofparliamentfromtheyear/environment-protection-act-1986>, (Last visited 07/11/2022).

<sup>9</sup> Pulp Mills on the River Uruguay (Argentina V Uruguay) 2010, see: <http://www.icj-cij.org/docket/index.php?case=135> , Sustainable Development in the 21st Sustainable Development in the 21st century (SD21) century (SD21), *Review of Implementation of the Rio Principles*, Study prepared by the Stakeholder Forum for a Sustainable Future, December 2011, Detailed review of implementation of the Rio Principles, 1127rioprinciples\_221108\_161633. (Last visited 08/11/2022).

impact on the global poverty or prosperity. People in India have waited too long for access to modern amenities and means of development. We have committed to complete this task sooner than anticipated. However, we have also said that we will do all this in a cleaner and greener way”

- Prime Minister Narendra Modi (2018)<sup>10</sup>

Sustainable development is a core issue of environmental jurisprudence all over the World nay India and adaptation of 2030 SDG Goals and implementation of various policy on sustainable development, climate change etc. in India are the example of the concern of this nation state towards responsible future by establishing the enabling environment for sustainable development and climate actions. India has been very much concerned about climate change and sustainable development and our country is striving towards excellence for sustainability through installation of renewable. India emphasized on National Clean Air Programme (NCAP) as an initiative to address air pollution. India is implementing the SDG Goals on the area of poverty, innovation, climate change, sustainable consumption, etc. The Central Government Flagship policies are can be the best example towards India’s commitment in implementation of sustainable development goals. The Flagship programme namely Swachh Bharat Mission (SBM), Beti Bachao Beti Padhao (BBBP), Pradhan Mantri Awas Yojana (PMAY), Pradhan Mantri Jan-Dhan Yojana (PMJDY), Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY) and Pradhan Mantri Ujjwala Yojana (PMUY) are the Central Government achievement towards sustainable development. The NITI Aayog of Government of India preparing measurable index of SDG’s and their achievement in India state wise. India has continuously accepting the threats of climate change and implementing various principles to protect adapt and mitigate climate change based on Common but Differentiated Responsibilities (CBDR) and Clean Development Mechanism (CDM). The Kyoto Protocol has brought CDM mechanism to reduce emission to the non-Annex I parties. India as a developing country is promoting clean technology and clean energy and established National Action Plan on Climate Change (NAPCC) and State Action Plan on Climate Change (SAPCC) in 2008 which can be said as a back drop of India’s voluntary commitment of emission reduction. India through Nationally Determined Contribution (NDC) talked about India’s intention to undertake the pledge of Paris agreement which was ratified by India on October 2, 2016. Green

---

<sup>10</sup> ECONOMIC SURVEY, ECONOMIC SURVEY VOLUME II (ALL CHAPTERS), Sustainable Development and Climate Change, Economic Survey 2018-19 Volume 2, echap05\_vol2\_221108\_161132. (Last visited 08/11/2022).

technology transfer, innovation and implementation are helping India's climate actions as a developing country. India in November 30, 2015 with France formulated International Solar Alliance (ISA) for better commitment towards sustainability.

- India implements 2030 SDG targets by introducing various CDM Projects ,According to NITI Ayogs SDG index 2021 India's score is 66.
- Kerala and Himachal Pradesh Chandigarh and Puducherry are the front runners in SDG index.
- Namami Gange Mission- was launched to achieving the SDG 6 –as a priority programme for the period 2015-2020.<sup>11</sup>

In India before Stockholm we have Indian Constitution Tort Law, Indian Penal Code, Criminal Procedure Court then Forest Act 1927, Wildlife Protection Act etc. to deal with the protection of environment. After the Stockholm convention which India ratified Stockholm and implemented it in Municipal Legislation by introducing Environment Protection Act 1986. As Stockholm is the Magna Carta of environmental law and the then Indian Prime Minister Mrs. Indira Gandhi created history by participating and delivering lecture in the conference. Immediately after Stockholm 42<sup>nd</sup> amendment of the Indian Constitution bring paradigm shift towards protection of fundamental rights as well as environmental protection by introducing Article 48(A) and Article 51A(g). **Article 48-A** of the Constitution of India which is a part of the Directive Principle of State Policy, it imposed a duty on the state, **“to protect and improve the environment and to safeguard the forests and wildlife of the country”**.<sup>12</sup> **Article 51-A (g)** conferred the fundamental duty on the citizens, **“to protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for living creatures”**.<sup>13</sup> **Article 21 of the Indian Constitution deals with protection of life and liberty of Indian citizen as well as the Foreigners. After 1978 Maneka Gandhi case the dimension of right to life has changed which includes fundamental right to live in a pollution free environment and access to fresh water and quality air.**<sup>14</sup>

---

<sup>11</sup> ECONOMIC SURVEY, ECONOMIC SURVEY VOLUME II (ALL CHAPTERS) Sustainable Development and Climate Change, Economic Survey 2018-19 Volume 2, echap05\_vol2\_221108\_161132. (08/11/2022.3).

<sup>12</sup> PROF. NARENDER KUMAR, CONSTITUTIONAL LAW OF INDIA, (Allahabad Law Agency, 7<sup>th</sup> Edition).

<sup>13</sup> Ibid.

<sup>14</sup> DR. KAILASH RAI, CONSTITUTIONAL LAW OF INDIA, CENTRAL LAW PUBLICATIONS, (Allahabad, 11<sup>th</sup> Edition).

Judicial Notion of Indian Judiciary and Judges creativity to improve environmentalism includes protection of natural environment can be seen in various important cases they are (1) *Rural Litigation and Entitlement Kendra v. State of U.P.*, 1985 AIR 652, (2) *Indian Council for Enviro-Legal Action v. Union of India*, 1996 AIR 1446, (3) *Vellore Citizens Welfare Forum v. Union of India*, (1996) 5 SCC 647, (4) *M.C. Mehta v. Union of India*, (1986) 2 SCC 176, (5) *M.C. Mehta v. Union of India*, (1987) 4 SCC 463, (6) *M.C. Mehta v. Union of India*, (1988) 1 SCC 471, (7) *M.C. Mehta v. Union of India*, (1996) 4 SCC 750. Under Article 32 and 226 of the Indian Constitution through public interest litigation environmental litigations are maintainable under the Supreme Court and High Court in India. In *M.C. Mehta v. Union of India*<sup>15</sup>, the victim of the gas leak case through public interest litigation get compensation under the polluter pay principle. *M.C. Mehta* cases are the strong basic of Indian environmental jurisprudence which based on enormous guidelines towards environmental protection in India. In *Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P.*,<sup>16</sup> a group of public spirited citizens brought to the notice of the Court that the quarry owners had indiscriminately mined skipper slops and therefore, depriving them of trees and damaging the natural structure in the valley mainly due to extraction of more and more limestone, resulting into landslides and blocked underground water channels which caused dryness of many rivers and spring rivers in the valley. The Supreme Court in *Municipal Council, Ratlam v. Vardhichand*,<sup>17</sup> has held that pollution free environment is our human right. We cannot secure social justice to the society unless corroborated with rule of law. In *T.N. Godavaman Thirumulpad v. Union of India*<sup>18</sup> the Supreme Court banned mining activity in Aravalli hills and the forest area adjacent there to. In this case the Supreme Court given interim direction to the ongoing activities within forest area throughout the country cannot be allowed without the permission of Central Government. The Supreme Court also directed the saw mills and wood best industries where not permitted to cut trees within the forest area. According to the SDG Index, India is ranked

---

<sup>15</sup> *M.C. Mehta v. Union of India*, AIR 1987 1086.

<sup>16</sup> *Dehradun v. State of U.P.*, AIR 1985 S.C. 652.

<sup>17</sup> *Ratlam v. Vardhichand*, AIR 1980 S.C. 1622.

<sup>18</sup> *T.N. Godavaman Thirumulpad v. Union of India*, (2009) 17 SCC 764, it is a continuous writ petition which also known as Forest Conservation Case where the Hon'ble Supreme Court has given various direction to protection of Indian Environment. *T.N. Godavarman Thirumulpad v. Union of India*, (2009) 17 SCC 776; *T.N. Godavarman Thirumulpad (103-B) v. Union of India*, (2009) 17 SCC 169; *T.N. Godavarman Thirumulpad v. Union of India*, (2010) 11 SCC 599, *T.N. Godavarman Thirumulpad v. Union of India*, (2012) 12 SCC 236 and 297. Available at Our Common Future - The World Commission on Environment and Development, 43 (1987). See also Centre for Environmental Law, *World Wide Fund-India v. Union of India*, (2013) 8 SCC 234. Available at Dr. Paramjit S. Jaswal, Dr. Nishtha Jaswal, Vibhuti Jaswal, Environmental Law, Allahabad Law Agency, Faridabad, Haryana, 4<sup>th</sup> Edition, P – 154.

110 out of 149 in the amount of progress in the implementations of 17 goals.<sup>19</sup> A high Level Steering Committee has been constituted for a yearly review of the framework.<sup>20</sup> The NITI Aayog is the prime authority for implementations of SDGS;<sup>21</sup> Every SDG is under specific ministry and other collateral ministries for implementation.<sup>22</sup>

**Stockholm +50 Healthy Planets for all – Our Responsibility:** “It is time for international solidarity across the board”.

*“Solidarity that respects all human rights and guarantees a safe space for environmental defenders and all actors in society to contribute to our climate response. **Let’s not forget that the war on nature is in itself a massive violation of human rights”.***

— Secretary-General Antonio Guterres, High-Level opening of COP27<sup>23</sup>

In 2022 towards sustainable development and its implementation the recommendation for Stockholm+ 50 meeting can be cited as action based program towards healthy planet for all. In this Stockholm+ 50 meeting 3 main idea are involved (1) Healthy planet and prosperity for all, (2) recovery from Covid 19 pandemic, (3) implementation of environmental regulations, rules and securing sustainable development. It ended with various recommendations on right to healthy and sustainable environment, a global petition for UN Declaration of rights of Mother

---

<sup>19</sup> SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK (SDSN), AND BERTELSMANN STIFTUNG, (2016) INDEX MAP, <http://www.sdgindex.org/date/index/>, Available at S. Hazra, A. Bhukta (eds.), SPRINGER NATURE SWITZERLAND AG 2020, Sustainable Development Goals, Sustainable Development Goals Series, [https://doi.org/10.1007/978-3-030-42488-6\\_15](https://doi.org/10.1007/978-3-030-42488-6_15), An Article by on *Biodiversity Conservation and the UN’s Sustainable Development Goals: India’s Responses Evaluated – Particularly in Relation to SDG 15*, Clement A. Tisdell.

<sup>20</sup> MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION, [http://mospi.nic.in/sites/default/files/announcements/SDG\\_07122018.pdf?download=1](http://mospi.nic.in/sites/default/files/announcements/SDG_07122018.pdf?download=1), Available at S. Hazra, A. Bhukta (eds.), SPRINGER NATURE SWITZERLAND AG 2020, Sustainable Development Goals, Sustainable Development Goals Series, [https://doi.org/10.1007/978-3-030-42488-6\\_15](https://doi.org/10.1007/978-3-030-42488-6_15), An Article by on *Biodiversity Conservation and the UN’s Sustainable Development Goals: India’s Responses Evaluated – Particularly in Relation to SDG 15*, Clement A. Tisdell.

<sup>21</sup> MINISTRY OF HEALTH AND FAMILY WELFARE, PRESS INFORMATION BUREAU (FEB. 26, 2016) Press Release, <http://pib.nic.in/newsite/PrintRelease.aspx?relid=136880>, Davies, Supra note 7. See Also <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1597981>, <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1597981>, Available at S. Hazra, A. Bhukta (eds.), SPRINGER NATURE SWITZERLAND AG 2020, Sustainable Development Goals, Sustainable Development Goals Series, [https://doi.org/10.1007/978-3-030-42488-6\\_15](https://doi.org/10.1007/978-3-030-42488-6_15), An Article by on *Biodiversity Conservation and the UN’s Sustainable Development Goals: India’s Responses Evaluated – Particularly in Relation to SDG 15*, Clement A. Tisdell.

<sup>22</sup> Sustainable Development Goals (SDGs), Targets, CSS, Interventions, Nodal and other Ministries (As on Mapping – SDGs%20V19-Ministries%20Feedback%20060416\_0.pdf), Available at S. Hazra, A. Bhukta (eds.), SPRINGER NATURE SWITZERLAND AG 2020, Sustainable Development Goals, Sustainable Development Goals Series, [https://doi.org/10.1007/978-3-030-42488-6\\_15](https://doi.org/10.1007/978-3-030-42488-6_15), An Article by on *Biodiversity Conservation and the UN’s Sustainable Development Goals: India’s Responses Evaluated – Particularly in Relation to SDG 15*, Clement A. Tisdell.

<sup>23</sup> HUMAN RIGHTS AND THE ENVIRONMENT, <https://www.genevaenvironmentnetwork.org/resources/updates/human-rights-and-the-environment/>, (Last visited 09/11/2022).

Earth. 50 years after the Stockholm conference on human environment the humanity is facing climate change, global warming, pollution and Covid 19. The biodiversity loss is also a great cause for panic which can hamper the idea of healthy planet for all. In this Stockholm+ 50 convention of two day on 2<sup>nd</sup> - 3<sup>rd</sup> June 2022 in Stockholm the state parties are after the securing the prosperity for all. Sustainable development is the key issue the implementation of which in environmental jurisprudence is a great action and commemoration and conservation. The ten actionable recommendations for healthy planet for all is the outcome of this convention.<sup>24</sup>

- Consider human well-being as an important issue to secure healthy planet and prosperity for all;
- Safe, protected ,sustainability is key for a good Earth:
- Adaptation of changing dimension with economic stability is the correct approach.
- Existent commitment and its implementation in regional ,international level is needed
- public and private financial activities in environmental, climate, and sustainable development commitments and their mingling is the solution
- Accelerate transformations of important sectors are liable for the growth with sustainability , which are food, energy, water, buildings and construction, manufacturing, and mobility;
- relationships of trust cooperation and solidarity is needed, participation of all stakeholders, in policy formulation and implementation at all levels is need of the hour.
- ensuring “a fair and effective multilateralism” is the wayout;
- spot out intergenerational responsibility as a key feature of rule making
- Looking to the future with the Stockholm+50 outcomes, to the 27th session of the Conference of the Parties (COP 27) to the UNFCCC, and implementation of the world leaders vision is important to secure sustainable development.

The Stockholm+ 50 also include a Sweden led Ministerial statement on the rights of Mother Earth and also talked about an action plan for sustainable planet in the digital edge. It also talks about green job for youth pact and accountability and transparency towards a sustainable future. In the changing environment the global citizen need to secure sustainable and healthy

---

<sup>24</sup> STOCKHOLM+50 URGES ACTION, RENEWAL, TRUST FOR OUR COMMON FUTURE, <https://sdg.iisd.org/news/stockholm50-urges-action-renewal-trust-for-our-common-future/>, (Last visited 09/11/2022).

future for all the generations. Healthy environment presupposes close relationship between human rights and environmental protection and securing clean environment, biodiversity, protection of ecosystem services and safe climate for human health and well-being. Stockholm+ 50 is a collaborative approach to share the experience to protect the planet people and peace even in pandemic time. A healthy planet and prosperity for all is the motto of this conference to protect the sustainability and facing climate change. Which will be based on intergenerational responsibility, implementation, and accelerating, wide action on sustainable development, connectivity and measuring the progress of well-being? The slogan of Stockholm declaration was we only have one Earth is still relevant today. It is the responsibility of the World parties to protect environment and accelerate development by protecting the Mother Earth. The Global North and South should focus on the mandate of Stockholm+ 50 towards the protection of all the stakeholders. In Stockholm 1972 Mrs. Indira Gandhi said poverty is the biggest polluter and there is an interconnection between development, poverty and environment. Today human being should contribute towards the path of sustainable consumption of the Mother Nature and follow the International conventions in a collective way. The present responsibility is to recover from pandemic, accelerated growth, and measure the progress and well being. It is the duty of the state parties to recognize human right to clean, healthy and sustainable environment for the welfare of the humanity and to achieve 2030 agenda of SDG goals. We are inherited earth from ancestors but we are consuming it from the future generation's right to life and environment. As we have to planet B we need to protect the Mother Earth globally, regionally and locally with utmost care and caution. During the event a call for International and indigenous contributions was sought Right to nature having its impact also in sustainability issue as well as restoration. The gesture shown by citizen's assembly to hold right to nature with solidarity is important issue to be followed. This is our Mother Earth we global citizens need to cherish every legacy of this Earth, we need zero tolerance to the fossil fuels after 50 years of Stockholm. Stockholm+50 stressed on green technologies, A fossil fuel non-proliferation treaty is the need of the hour as stated by the state parties. Stockholm +50 stressed on protection of Environment and protection of humanity from nuclear Risks. It talks about everyone, act now, cooperation, solidarity. Only one Earth is still the motto to achieve sustainable development.

### **Conclusion**

Stockholm Conference of 1972 placed human being at the center of concern and securing healthy sustainable planet for all. Securing the right to clean, healthy and sustainable

environment in every country of the World was the main objective of the conference. Adapting new measures by promoting polluter pay principle, precautionary principle, technology transfer, cooperation, implementation of the commitment through policy resolution was the vision of the World leaders to secure sustainable development. Relationship of trust and cooperation lead to ensuring rule based multi lateral system. After fifty years climate change condition global warming is now at a condition that if it is not answered in the ongoing Cop 27 we will lose our right to environment forever. The participation of World youth, in the climate action is the ray of hope for protection of biodiversity of today. The global leadership are accepting urgent action based solution for achieving sustainable development and its implementation through intergenerational responsibility. Indigenous people, World youth, the relationship between developed and developing nation are given importance to stop the planetary crisis. According to Stockholm+ 50 conference consultation, report policy paper, UN environment management group, Stockholm resilience center, regional consultation all have a great significant to strengthen present environment by implementing the vision of 1972. It is the responsibility of the global commons to ensure a healthy planet for all and to secure prosperity and opportunity to build a greater tomorrow.

**Suggestion:**

- (1) There is an urgent need to take action by all the state parties for protecting our environment.
- (2) Unprecedented challenges faced by the humanity due to climate change and global warming should be given primary importance and the global commons as a whole.
- (3) The sustainable use of natural resources and balanced approach by the countries towards environment, development and human well-being can solve the problem.
- (4) The 2030 agenda of SDG Goals and combating Covid 19 and other deadly diseases is need of the hour which can be secure through healthy environment.
- (5) The climate controlling technology transfer, implementation of new green technology for the transformation of society at large towards combating climate change can be a solution to improve environment.
- (6) Accelerating the monitoring system and implementation of the dictate of Stockholm, taking collective action, rebuild relationship of trust among the country parties, will enhance well being and secure sustainable environment for all.

- (7) We should consider us as a part of global family while targeting to achieve common goals.
- (8) Stockholm+ 50 will help to accelerate action based achievement and implementation of humanity welfare and SDG agenda can save the World by ensuring prosperity for all.
- (9) We need a common statutory platform to secure one health and sustainable development, for all and by adhering solidarity and collaboration, the global leadership can rebuild the human well being by securing one environment for all.
- (10) Stockholm+ 50 really opens the opportunity towards multi stakeholder approach for sustainable future, we need to hold on and rethink about the intergenerational responsibility as a great issue to combat global climate change.

## THE CONUNDRUM OF SPACE DEBRIS AND ITS SUSTAINABLE REMEDiation BY POLLUTER PAYS PRINCIPLE

Ditipriya Dutta Chowdhury

*Research Scholar, Department of Law, The University of Burdwan, Email:*

*ditipriya.dchowdhury@gmail.com*

### **Abstract**

*The reach and advancement of humans in the technical fields and the scientific achievements have been profound in past few decades. The same can be witnessed in the field of exploring and traversing the space and the results have been nothing but extremely impressive. We have not just been able to travel to different planets and explore them but also speculate existence of life or the possibility of supporting life on these planets, intercept collision of meteorites and even talk about buying lands on the Moon! However, each coin has two sides to it and example of such brilliance has come with certain cons as well. In order to carry out the explorations, satellites and spacecrafts are sent to outer space, but what happens to these space objects when they become inactive? These inactive space objects end up remaining in the outer space and give rise to the growth of space debris. However, other than Outer Space Treaty, there is no such international or national legal framework to address the problem of space debris and therefore the question as to who would be responsible and liable for the debris creation and remediation remains unanswered. The proposed paper would, thus, examine the existing legal frameworks, identify the policy gaps and study whether the environmental principles of Rio Declaration, 1992, will be applicable in order to answer the questions related to the responsibility and liability for space debris. It would especially try and determine whether Countries can rely upon the Polluter pays principle in order to attach liability with any organisation in case of state funded or privately funded space missions. Thus, the author will attempt to provide solutions to the policy gaps and offer a workable remedy.*

**Keywords:** Outer space, remediation, space debris, space-faring, sustainability.

### **Introduction**

How many of us remember the movie “Gravity”? Yes, it is the 2013 movie by Alfonso Cuarón where everything on a NASA mission goes completely wrong when a defunct satellite is struck by a Russian missile. It involuntarily causes a chain of reactions- explosions and multiplication of space debris- which in turn were travelling at an extremely high speed. In no time, the said NASA Space Shuttle gets hit by the debris and an irreversible damage is caused to the shuttle

which resultantly leaves only two survivors- “*Dr. Ryan Stone*” and Mission Commander “*Matt Kowalski*”- abandoned in space with no communication with their Mission Control.

This seems to be an engaging plot for a science fictional movie, right? However, this story line may not be as speculative as one might prefer it to be. On 10<sup>th</sup> February, 2009, one of Russia’s “old military satellites happened to collide with the then functioning Iridium communications satellite” and the collision in turn created more than “200,000 pieces of debris” and this event marked the “first collision of two intact satellites in space”.<sup>1</sup>

Humans have been exploring the space for decades now and their activities have given rise to an escalating amount of space debris which is also gravitating in orbit. Sputnik I, launched in 1957, burned up in 1958, thus becoming the first piece of space debris.<sup>2</sup> In 2007, January 11<sup>th</sup>, China purposely knocked down one of its satellites- weather satellite (Fengyun 1C)- thereby increasing the number of traceable space objects by 25%<sup>3</sup> and subsequently, upto that point, it marked the largest new creation of debris in history.<sup>4</sup> India too performed a similar test in 2019. Through “mission Shakti”,<sup>5</sup> after the United States, China, and Russia, India became the fourth nation, to have conducted such a test.<sup>6</sup> Thus, it is evident that since the time of Sputnik I, in 1958, the extent of space debris has seen a considerable growth.

The European Space Agency, in 2020, estimated the number of space debris present in the orbit and it includes more than “128 million objects, ranging from one millimetre to one centimetre, and 9,00,000 objects from one centimetre to ten centimetres, and 34,000 objects measuring more than ten centimeters”.<sup>7</sup> Scientists have predicted that the statistics and numbers are expected to go up exponentially, even if nothing new is put in the orbit and this is known as the Kessler Syndrome. The threat that lurks with this growth in space debris is not only limited to space environment and satellites, but also to human explorers in space and also to life on

---

<sup>1</sup> Megan Ansdell, *M. Active space debris removal: Needs, implications, and recommendations for today's geopolitical environment*, Journal of Public and International Affairs, 2010 (Oct. 25, 2022, 10:20 am) <https://jpia.princeton.edu/sites/g/files/toruqf1661/files/space-debris-removal.pdf>.

<sup>2</sup> Nicholas L. Johnson., *Orbital Debris: The Growing Threat to Space Operations*, American Astronautical Society, 2010 (Oct. 25, 10:30 am) <http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20100004498.pdf>.

<sup>3</sup> National Aeronautics and Space Administration, *Space Debris*, (Oct. 25, 10:35 am). [https://www.nasa.gov/centers/hq/library/find/bibliographies/space\\_debris](https://www.nasa.gov/centers/hq/library/find/bibliographies/space_debris).

<sup>4</sup> Mike wall, *Huge dead satellite may be space junk for 150 years*, (Oct. 25, 10:36 am) <https://www.space.com/15640-envisat-satellite-space-junk-150years.html>.

<sup>5</sup> *India's mission Shakti: Can we leave space out of earthly conflicts?* (Oct. 25, 10: 40 am) <https://qz.com/india/1584560/indias-mission-shakti-lets-leave-space-out-of-earthy-conflicts/>.

<sup>6</sup> The Hindu, *P.T.I. Narendra Modi announces success of mission Shakti, India's anti-satellite missile capability*, 2019 (Oct. 25, 10:10am) <https://www.thehindu.com/news/national/narendra-modi-announces-success-of-mission-shakti-indias-anti-satellite-missile-capability/article26651731.ece>.

<sup>7</sup> European Space Agency, *Space Debris by the Numbers*, 2020 (Oct. 25, 10: 05 am) [https://www.esa.int/Safety\\_Security/Space\\_Debris/Space\\_debris\\_by\\_the\\_numbers](https://www.esa.int/Safety_Security/Space_Debris/Space_debris_by_the_numbers).

Earth. “The issue of space debris is of major concern and it requires an immediate and competent reaction from all the States. Only then, it will be possible to fight the effects of such space pollution and also to make sure that space-faring can be carried on while protecting and preserving the outer space environment.”<sup>8</sup> Nevertheless, though not an easy task to combat such a pressing issue, it surely will not be the first time when the international community is facing such a real problem. Time and again they have come together to take action to save the environment. Without an ounce of doubt, the problem at hand involves a series of complex political, economical and geopolitical interests which cannot be ignored, however, the focal point of this article will be to pay attention to the legal aspects and consider that the conduct of the States can be standardized by employing legal principles and conventions. Over the past few decades, the international environmental law has evolved by leaps and bounds, with sustainable development and fundamental principles at its core.<sup>9</sup> Therefore, this article proposes to understand as to how can these international environmental law principles can be implemented in regulating the nations and thereby addresses the problem of dealing with space debris.

### **What is space debris?**

The debate on space debris is pertinent and pressing at both national and the international level, however, there is still no legally sound international framework that defines “*space debris*”. However, there is one definition that is available. It has been given by the “Inter-Agency Space Debris Coordination Committee (IADC)” which has also been endorsed by the “United Nations Committee on Peaceful Uses of Outer Space”,<sup>10</sup> which is regarded as the main forum where “countries assemble to discuss problems related to activities in outer space”.<sup>11</sup> The said definition defines space debris as “*all man-made objects including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non-functional*”.<sup>12</sup>

---

<sup>8</sup> Scientific and Technical Subcommittee of the UNCOPUOS, *Active Debris Removal – An Essential Mechanism for Ensuring the Safety and Sustainability of Outer Space: A Report of the International Interdisciplinary Congress on Space Debris Remediation and OnOrbit Satellite Servicing*, 2012 (Oct. 25, 10:15 am) [https://www.unoosa.org/pdf/limited/c1/AC105\\_C1\\_2012\\_CRP16E.pdf](https://www.unoosa.org/pdf/limited/c1/AC105_C1_2012_CRP16E.pdf).

<sup>9</sup> Eloise Scotford, *Environmental Principles and the Evolution of Environmental Law*, Oxford: Hart Publishing, 2017 (Oct. 25, 11:00 am) <https://media.bloomsburyprofessional.com/rep/files/9781849462976sample.pdf>.

<sup>10</sup> United Nations Office For Outer Space Affairs, *Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space*, (Oct. 25, 10: 17 am) [https://www.unoosa.org/pdf/publications/st\\_space\\_49E.pdf](https://www.unoosa.org/pdf/publications/st_space_49E.pdf).

<sup>11</sup> General Assembly Official Records, *Report of the Committee on the Peaceful Uses of Outer Space*, 2007, Sixty-second session, Supp. No. 20, A/62/20 (2007), Annex IV (Oct. 25, 11:00 am) [https://www.unoosa.org/pdf/gadocs/A\\_62\\_20E.pdf](https://www.unoosa.org/pdf/gadocs/A_62_20E.pdf).

<sup>12</sup> Inter-Agency Space Debris Coordination Committee, *Space Debris Mitigation Guidelines*, section 3.1, (Oct. 26, 10:00 am) <https://orbitaldebris.jsc.nasa.gov/library/iadc-space-debris-guidelines-revision-2.pdf>.

Space debris, further, has been categorized to have been formed from four sources, namely:

- Inactive payloads- Also known as inoperative payloads, these are “the satellites that have been abandoned and cannot be controlled or operated from Earth”.<sup>13</sup>
- Operational debris- As the name suggests, this kind refers to “the debris that are released during any space operation and have been discarded since they are not in use anymore”. Example, debris created during the launch of a satellite.<sup>14</sup>
- Fragmentation debris- “Any break ups that takes place in-orbit, whether due to explosions, accidents or collisions”, give rise to fragmentation debris.<sup>15</sup>
- Micro-particulate matter- The environment in outer space is exceptionally aggressive and this causes the in-orbit objects and the manned spacecrafts to shed their exterior, thereby, creating micro-particulate matter.<sup>16</sup>

Thus, it can be said that space debris includes objects as diverse as “*satellites that are no longer in use, parts of space objects which have been ejected or fragments resulting from explosions and collisions, tools used during space walks, garbage dumped by manned missions, or even flakes of paint*”.<sup>17</sup>

### **Orbital debris and its issues**

Space debris is extremely treacherous to both space and the Earth. In relation to the space, the debris present can cause collision, thereby, endangering both existing and future space missions. It has been noted by NASA that these debris can reach speeds almost near to “8,046.72 meter per second- almost 7 times faster than the speed of bullet- and it is fast enough to cause grave harm to spacecrafts or satellites”.<sup>18</sup> Mankind, as a technologically advanced race, heavily depends upon satellite technologies and applications for a lot of essential activities- “communications, photograph and mapping, remote sensing and Geographic

---

<sup>13</sup> Committee on the Peaceful Uses of Outer Space, Scientific and Technical Subcommittee, *Towards Long-term Sustainability of Space Activities: Overcoming the Challenges of Space Debris: A Report of the International Interdisciplinary Congress on Space Debris*, 2011 (Oct. 26, 10:30 am) [https://www.unoosa.org/pdf/limited/AC105\\_C1\\_2011\\_CRP14E.pdf](https://www.unoosa.org/pdf/limited/AC105_C1_2011_CRP14E.pdf).

<sup>14</sup> *Id.* at p. 12.

<sup>15</sup> Committee on the Peaceful Uses of Outer Space, *supra* note 13, at p. 12.

<sup>16</sup> Committee on the Peaceful Uses of Outer Space, *supra* note 13, at p. 12.

<sup>17</sup> Lotta Viikari, *The Environmental Element in Space Law: Assessing the Present and Charting the Future*, IDC Publishers, Martinus Nijhoff Publishers and VSP, Leiden and Boston, 2008, p. 31-32 (Oct. 26, 12:00pm) [https://books.google.co.in/books?hl=en&lr=&id=026wCQAAQBAJ&oi=fnd&pg=PR5&dq=Lotta+V.+The+Environmental+Element+in+Space+Law:+Assessing+the+Present+and+Charting+the+Future.+IDC+Publishers,+Martinus+Nijhoff+Publishers+and+VSP,+Leiden+and+Boston,+2008.&ots=GMvTvc7JlZ&sig=1t-AYGr00IN2ssMi-tGwfX39x9E&redir\\_esc=y#v=onepage&q&f=false](https://books.google.co.in/books?hl=en&lr=&id=026wCQAAQBAJ&oi=fnd&pg=PR5&dq=Lotta+V.+The+Environmental+Element+in+Space+Law:+Assessing+the+Present+and+Charting+the+Future.+IDC+Publishers,+Martinus+Nijhoff+Publishers+and+VSP,+Leiden+and+Boston,+2008.&ots=GMvTvc7JlZ&sig=1t-AYGr00IN2ssMi-tGwfX39x9E&redir_esc=y#v=onepage&q&f=false).

<sup>18</sup> National Aeronautics and Space Administration, *supra* note 3.

Information System (essential to geographical studies), weather forecast, global positioning system, and even the defense sector”.<sup>19</sup> Increase in debris population not only poses an alarming threat to the path of these satellites but also to the functional aspect of these satellites.

Further, there are a lot of human activities in the space- be it manned missions or space missions for tourism<sup>20</sup>- and presence of debris affects the safety for such life in the space. Furthermore, the “International Space Station (ISS), which at present is space manned mission, it is constantly considered to be risking debris situation and it has been recorded by NASA that ISS has already managed to maneuver and avoid three collisions in 2020 alone”.<sup>21</sup>

As has been mentioned above, the danger from this debris situation is not exclusive to space. It extends beyond that and poses a threat to Earth and life on Earth as well. “A Soviet satellite fell to Earth in 1978, scattering radioactive particles over northern Canada; this crash required extensive cleanup of the area.”<sup>22</sup> Further, in April, 2000, “different places in South Africa experienced space debris crashes”.<sup>23</sup> Similarly, on May 13, 2020, a “Chinese rocket falling back to Earth uncontrollably may have dropped debris in two nearby Ivorian villages”.<sup>24</sup> These events are not some isolated events and it can be deduced from these accidents that “large items from space can re-enter Earth successfully without totally burning up in the atmosphere and this can result in nuclear contamination of Earth's surface.”<sup>25</sup> These accidents can end up hurting human life on Earth and it is need of the hour that some steps are taken in light of the abovementioned risks.

---

<sup>19</sup> Tipper D. Satellite application. (Oct. 26, 12:10 pm) [www.pitt.edu/~dtipper/2720/2720\\_Slides17.pdf](http://www.pitt.edu/~dtipper/2720/2720_Slides17.pdf).

<sup>20</sup> Sheetz M. How SpaceX, Virgin Galactic, Blue Origin and others compete in the growing space tourism market, 2020 (Oct. 26, 12:15 pm) <https://www.cnbc.com/2020/09/26/space-tourism-how-spacex-virgin-galactic-blue-origin-axiom-compete.html>.

<sup>21</sup> Mike Wall, *Astronauts take shelter as space station dodges orbital junk*, 2020 (Oct. 26, 12:30 pm) <https://www.space.com/space-station-dodges-debris-astronauts-soyuz-shelter>.

<sup>22</sup> Committee For the Assessment of NASA's Orbital Debris Programs, National Research Council, *Limiting future collision risk to spacecraft: An assessment of NASA's Meteoroid and Orbital Debris Programs*, 2011, p.60 (Oct. 28, 10:00 am) [https://books.google.co.in/books?hl=en&lr=&id=sj5aTqhNVjkC&oi=fnd&pg=PR1&dq=+Comm.+For+the+Assessment+of+NASA%27s+Orbital+Debris+Programs,+Nat%27I+Research+Council.+Limiting+future+collision+risk+to+spacecraft:+An+assessment+of+NASA%27s+Meteoroid+and+Orbital+Debris+Programs+\(2011\).+www.nap.edu/catalog.php%3Frecord\\_id%3D13244+\(last+accessed+&ots=cc06YXinhK&sig=a0\\_QsI\\_EuijF604Diuwao3k0vbA&redir\\_esc=y#v=onepage&q&f=false](https://books.google.co.in/books?hl=en&lr=&id=sj5aTqhNVjkC&oi=fnd&pg=PR1&dq=+Comm.+For+the+Assessment+of+NASA%27s+Orbital+Debris+Programs,+Nat%27I+Research+Council.+Limiting+future+collision+risk+to+spacecraft:+An+assessment+of+NASA%27s+Meteoroid+and+Orbital+Debris+Programs+(2011).+www.nap.edu/catalog.php%3Frecord_id%3D13244+(last+accessed+&ots=cc06YXinhK&sig=a0_QsI_EuijF604Diuwao3k0vbA&redir_esc=y#v=onepage&q&f=false).

<sup>23</sup> CBC. *Space debris falls on South Africa* (Oct. 28, 10:30 am) <https://www.cbc.ca/news/technology/space-debris-falls-on-south-africa-1.197698>.

<sup>24</sup> Forbes, *O'Callaghan J. Chinese rocket debris may have fallen on villages in the ivory coast after an uncontrolled re-entry* (Oct. 27, 7:30 pm) <https://www.forbes.com/sites/jonathanocallaghan/2020/05/12/parts-of-a-chinese-rocket-may-have-fallen-on-an-african-village/#7ee8988d65a2>.

<sup>25</sup> Committee For the Assessment of NASA's Orbital Debris Programs, *supra* note 22, at p. 60.

### **Existing legislations on debris removal and prevention**

Till now, there have been “multiple guidelines, policies, pieces of legislation, and regulations” which have been formulated to reduce and eliminate space debris, if possible. One such relevant and illustrious guideline is the “*Space Debris Mitigation Guidelines*”, IADC. The guidelines contain “preventative practices” which are intended to manage the amplification of “*space congestion in popular orbital regions such as low Earth orbit (LEO) and geostationary orbit*” in order to “preserve the commercial and scientific value”, while maintaining the “use of and access to space by future space users”.<sup>26</sup>

Similarly, the UN Guidelines on “*Space Debris Mitigation*” is also one of the key instruments, engaged in curbing the issue of space debris.<sup>27</sup> The said guideline has in turn seven guidelines to mitigate the problem: “*Limit debris released during normal operations; Minimize the potential for break-ups during operational phases; Limit the probability of accidental collision in orbit; Avoid intentional destruction and other harmful activities; Minimize potential for post-mission break-ups resulting from stored energy; Limit the long-term presence of spacecraft and launch vehicle orbital stages in the low-Earth orbit (LEO) region after the end of their mission; and Limit the long-term presence of spacecraft and launch vehicle orbital stages in the low-Earth orbit (LEO) region after the end of their mission*”.<sup>28</sup>

### **Road blocks in effective dealing of space debris**

The current space legal treaties and guidelines, as mentioned above, are causing major problem as these are outdated and are not able to deal with the issue of space debris. Other than the IDAC definition of space debris, there is no other legal and uniform definition and all the instruments which are addressing the said issue are “soft laws” and do not have a binding effect on states *per se*.

Therefore, it is important to have a “working definition” to enforce an effective remediation regime. Without a uniform definition, it becomes difficult and illegal to remove any space objects without the launching State’s authority, since the concept of salvage rights is not acknowledged in space by neither the Outer Space Treaty nor the Registration Convention.<sup>29</sup> On the other hand, had there been a definite definition as to what space debris would include,

---

<sup>26</sup> Inter-Agency Space Debris Coordination Committee, *supra* note 12, Section 5.

<sup>27</sup> United Nations Office For Outer Space Affairs, *supra* note 10.

<sup>28</sup> United Nations Office For Outer Space Affairs, *supra* note 10, at Section 4.

<sup>29</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty), Article VIII (Oct. 26, 9:00 pm) <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html>.

maybe the international bodies could come up with a distinguished framework to deal with and remediate space debris.

Furthermore, the existent space laws which are binding upon the Party States are too ambiguous regarding the of space debris. However, remarkably, Article IX of the Outer Space Treaty commands States to “*abstain from harmfully contaminating the outer space*” but fails to provide for what amounts to “harmful contamination”, nor does it ascertain any machinery to make the States liable for a violation of the said article.<sup>30</sup> Additionally, there is the Article III of Liability Convention which is mirroring Article VII of Outer Space Treaty and it provides that “*a launching State shall be absolutely liable to pay compensation for damage caused by its space objects on the surface of the Earth or to aircraft and liable for damage due to its faults in space.*”<sup>31</sup> It also provides for “*settlement of claims for damages for dispute resolution*” under the Liability Convention, however, “*decisions are final and binding only if agreed upon by the parties.*”<sup>32</sup> Vague nature of these laws enables States to create intentional debris like that of Fengyun and there has been no urge to take relevant legal steps.

These laws are extremely State centered and have failed to take cognizance of the private segment involved in space exploration. The national laws which are leading space explorations are leaning towards “*entrepreneurial innovation*” and it is amplified by the concept of US privatization of outer space activities by way of “*public-private partnership arrangements*”.<sup>33</sup> Hence, it is of importance that the liability factor be extended to include the private sector to take part in curbing and reducing space debris.

However, there are a lot of issues that are involved in the absence of any definite legal framework. The most important problem is that the launching state’s security interest is vested in the space objects and even in the debris. While cleaning up the debris, sensitive and classified information might be leaked and technologies built for clearing up the debris might even incapacitate the functional space objects<sup>34</sup>. These issues can give rise to doubt and lack of

---

<sup>30</sup> *Id.* 29, Article IX.

<sup>31</sup> Convention on International Liability for Damage Caused by Space Objects, Article III (Oct. 27, 9:15 am) <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introliability-convention.html>

<sup>32</sup> *Id.* 31, Article XIX.

<sup>33</sup> Khushi Kapoor, Keshav Todi, *The Privatisation of Space Exploration*, FIC SRCC, 2021 (Oct. 27, 7:00 pm) <https://ficsrcc.com/the-privatisation-of-space-exploration/>.

<sup>34</sup> Ward Munters, Jan Wouters, *The road not yet taken for defusing conflicts in active debris removal: A multilateral organization*. KU LEUVEN Working Paper No. 183, 2017, p. 23-24 (Oct. 26, 6:00 pm) [https://ghum.kuleuven.be/ggs/publications/working\\_papers/2017/183munters](https://ghum.kuleuven.be/ggs/publications/working_papers/2017/183munters).

assurance in debris removal programs amongst states, particularly in cases of “unilateral national implementation of removal technologies”.<sup>35</sup>

Further, another problem which can be identified is the issue of funding of remediation steps. It can be agreed upon that there are “levels of space faring and contribution to debris”. It was three countries which were the major players in debris contribution- “China (~42%), United States (~27.5%) and Russia (~25.5%)”.<sup>36</sup> Therefore, the questions that arise are:

- “What is the manner in which the international community will fund the debris remediation action?”
- “Whether it is to be borne by the space-faring states, if yes, how is the cost be computed amongst the states?”

No matter what perception is agreed upon, the major setback related to space debris reduction and elimination is undoubtedly the “absence of a binding and comprehensive international legal framework”. The international framework should not only give a definition of space debris but also reflect upon including the private sector and individuals under the liability regime. Further, it should focus upon providing a regime that would provide “funding for the debris remediation and space traffic management”, a clear understanding of “fault, negligence and causation” in order to make a party liable and most importantly incorporate the “application of environmental law principles in space”.

It is to be noted that for protection of the environment, we have well defined international principles which have been agreed upon by states and is also implemented nationally from time to time. Therefore, the same may be applied in case of space and space law. It is extremely important that the development is sustainable in nature and hence, the article will focus on implementing the existing environmental law principles in the context of space debris and how it may be managed and remediated over time.

### **Application of environmental law principles**

Time and again, while advocating the need to protect the environment, it has come across that certain parts and elements of the environment are common heritages of mankind. For instance, the Oceans- “Preamble” of the “UN Convention on the Law of the Seas” states that “*the seabed, subsoil, and its resources beyond the territorial jurisdiction of states are the common heritage*

---

<sup>35</sup> *Id.* 34, at p. 23-24.

<sup>36</sup> James M. Buchanan, *What should economists do?* Southern Economic Journal, Vol. 30, No. 3 (Jan., 1964), pp. 213-222 (Oct. 27, 7:15 pm) [https://www.jstor.org/stable/1055931?seq=6#metadata\\_info\\_tab\\_contents](https://www.jstor.org/stable/1055931?seq=6#metadata_info_tab_contents).

*of mankind*<sup>37</sup>. This signifies that such stretches of the oceans are owned by all mankind jointly thus the usage should be such that it is sustainable for the future generations as well. The same logic can be extended in case of space as well- the space surrounding Earth is a limited resource and should be used sustainably- for it is a common heritage of all mankind.

In order to recognize such a notion, a proper legal framework needs to be in place and while applying the international environmental law regime, principles like precautionary principle, environmental impact assessment and polluters-pay principle should be included amongst others. These principles have been enshrined in the Rio Declaration on Environment and Development, 1992<sup>38</sup> whose central theme is sustainable use of the environment. Therefore, the article hereunder defines the relevant environmental law principles in order to formulate a sustainable way of space use and debris remediation.

### **The precautionary principle**

It is human nature that when a particular resource is given to man, he uses it to its fullest, without considering the negative effects. However, since this is not the way to go about the resources available to man, the concept of sustainable use was developed. One such aspect of this concept is “Precautionary Principle” and Article 15 of the Declaration advocates for the same.<sup>39</sup>

As can be understood from the name, this principle requires mankind to take precautionary measures whenever an activity seriously threatens or causes irreversible damage human health or the environment even if the adverse effects have not been fully established scientifically. This principle is based on the notion of “precaution is better than cure”. The moment there is possibility that the new activity may have negative impacts on the environment, the burden is shifted to the State responsible, for such introduction of new activity, to take precautionary measures to protect the environment.

Although the said principle is an established part of “international customary law”, its application to space beyond Earth is difficult in the absence of a framework. It is therefore important to note that all states involved in the activity of space faring are also involved in creation of debris as it would be next to impossible to explore space with zero debris formation.

---

<sup>37</sup> United Nations Convention on the Law of the Sea, Preamble (Oct. 27, 9:15 am) [https://www.un.org/depts/los/convention\\_agreements/texts/unclos/unclos\\_e.pdf](https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf).

<sup>38</sup> Rio Declaration on Environment and Development, 1992, hereinafter mentioned as the Declaration (Oct. 26, 4:00 pm) <https://www.cbd.int/doc/ref/rio-declaration.shtml>

<sup>39</sup> *Id.* 38, Article 15.

However, what can be done is there can be threshold or benchmark created for permissible creation of space debris. Creation of any debris beyond the permissible limit would be held in violation of the precautionary principle.

### **The environmental impact assessment**

Before taking the precautionary measures, one needs to gauge the impact of a particular project and thereafter take decisions. Whenever a project is proposed to be undertaken, before any activity is carried out, any significant adverse effects of the project on the environment is assessed and thereafter, the project is sanctioned by competent national authority. This is the principle of “environmental impact assessment” which is contained in Principle 17 of the Declaration<sup>40</sup> and should also be extended to the outer space.

In relation to outer space, whenever a space faring activity is to be undertaken, the launching state should provide with a mandatory environmental impact assessment, which would help the authorities to understand the exact effects if may have on the outer space and how it may affect the debris situation. Further, it should be mandated for the launching states to provide a disposal regime whereby it will allow the states to remove the spacecraft from outer space once its purpose is served in order to reduce debris formation.

### **The polluter-pays principle**

The precautionary principle will help the states to safeguard certain activities in order to prevent any environmental mishap to take place and the environment impact assessment report only allows the authorities to decide upon the viability of a project and whether it would have any adverse effect on the environment or not. However, these principles do not provide the authorities with any framework to deal with the debris that is formed after a project (or launch) is carried out. There requires a mechanism that would hold the launching states responsible for the pollution created in outer space.

“If engaged in an activity which involves usage of inherently dangerous substance, one shall be liable to pay for the damages so caused to human and nature”.<sup>41</sup> The basic rule that a State is responsible for guaranteeing sufficient damages for any hazardous and unsafe exercises carried on by it, was established in the landmark judgment of “*Trail Smelter Arbitration*”<sup>42</sup> case that was between US and Canada.

---

<sup>40</sup> Rio Declaration, *supra* note 38, Article 17.

<sup>41</sup> Indian Council For Enviro-Legal vs Union Of India & Ors, 1996 AIR 1446.

<sup>42</sup> Trail Smelter Arbitration (U.S. v. Canada), 3 R.I.A.A. 1905 (1941).

Article 16 of the Declaration lays down the polluter-pays principle<sup>43</sup> and as the name suggests, it means whoever is responsible for polluting the environment- the polluter- shall be held liable by the national authorities to bear the cost of the pollution- prevention, control, and repair of damage caused - and there is a dire need to extend this principle in outer space too in relation to debris creation- whoever creates the space debris shall be responsible for cleaning such debris. A proper framework is required to allocate the liability as it would help in having a better space environment in two ways. First, it would act as a deterrent regime as states would be more vigilant of the debris being created in space exploration and second, it would create a legitimate way of creating funds to remediate space debris in an equitable manner.

As already stated above, it is almost impracticable for a space mission to not generate space debris. Therefore, by applying the polluter-pays principle, every launching state will be required to pay a certain sum for debris creation. There are a number of legal precedents which will help in enforcing this principle as polluter-pays principle is a well established and celebrated principle, both nationally and internationally.

This regime is very much possible if it can be ensured that each launch contributes to a particular amount of money in the form of solidarity contribution which can thereafter be employed to fund the removal of space debris.

### **A Workable Remediation Regime**

Once the international communities come together and provide with a working regime of space debris and its related issues along with management of space traffic, they can focus on framing a funding regime for remediation. It is important for the launching states to know all about the past launches and therefore, states need to re-register the space objects and determine whether such space objects are still functioning or not, thereby identifying the debris. The states may also be allowed to give consent to third parties for removal of the non-functioning objects and even demand the return of any such debris, if the launching state is not participating in cleaning up. This can help avoid the impediment posed by “Article VIII of the Outer Space Treaty and Article II of the Registration Convention”.

Further, on re-registration, the competent authorities too will be aware as to all launches- that have been made in the past, being made in the present and to be made in the future. Thereby, it will be of immense help for the authorities to implement the environmental law principles to such launches- precautionary principle, environmental impact assessment and polluter-pays

---

<sup>43</sup> Rio Declaration, *supra* note 38, Article 16.

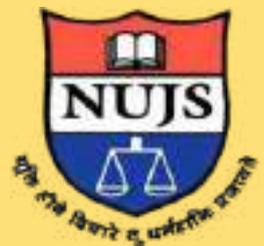
principle. Of all these principles, polluter-pays principle is the most important one to be recognized and implemented as the identified state or agency can be held liable to bear the cost of debris remediation. It would therefore provide with the much needed funds for the debris removal operations.

### **Conclusion**

As the problem related to space debris is becoming evident every day, an increase in growth in awareness in relation to outer space and it being a limited resource is also visible amongst researchers and scientists. The current space treaties have proven to be inefficient in tackling the issue and the space to be used sustainably, a proper and uniform legal regime is very much necessary to be legislated. The legal framework must not only limit itself to mitigation but also try and curb further creation of debris. It has to define debris and its management guidelines, provide for funding regime to clean the debris and include the application of existent international environmental principles.

Since the Outer Space Treaty is state centric, the new framework should also consider involving the private sector in the process of removing debris and to incentivize the process, commercialization of debris removal can also be thought of. If the debris removal can be done according to a well structured plan whereby states and private bodies can aim at removal of certain number of debris from the orbit, we may even succeed at reducing the threat posed by Kessler Syndrome.

It is therefore the need of the hour that all existing efforts be unified, structured and standardized with the help of a legal framework at remediation of space debris, so that states and private bodies can be made liable for adversely affecting the outer space. The community, worldwide, is expected to come together and assume certain obligations to deal with this issue and develop arrangements to forestall the production of debris in large amounts.



---

**CENTRE FOR REGULATORY STUDIES, GOVERNANCE AND PUBLIC POLICY  
THE WEST BENGAL NATIONAL UNIVERSITY OF JURIDICAL SCIENCES,  
KOLKATA**

**E : [crsgpp@nujs.edu](mailto:crsgpp@nujs.edu)**

**B : <https://nujs.edu/nujs-crsgpp.html>**

**P: +91(033) 2335 7379 (Ext. 7210)**