

**Protection of Medicinal Biodiversity in North Eastern Region of India with Special  
Reference to the Convention on Biological Diversity 1992 and Trade Related Aspects of  
Intellectual Property Rights 1994**

A Thesis Submitted  
To  
**Sikkim University**



In Partial Fulfilment of the Requirement for the  
**Degree of Doctor of Philosophy**

By  
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Date: 10/01/2022

#### DECLARATION

I, **Numa Limbu**, hereby declare that the research work embodied in the thesis titled  
“**Protection of Medicinal Biodiversity in North Eastern Region of India with Special  
Reference to the Convention on Biological Diversity 1992 and Trade Related Aspects of  
Intellectual Property Rights 1994**”, submitted to the Sikkim University in partial  
fulfillment of the requirement for the Degree of Doctor of Philosophy is my original work.  
This thesis has not been submitted for any other degree of this University or any other  
University.

Place: Gangtok, Sikkim

Date: 10/01/2022

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This is to certify that the thesis titled “**Protection of Medicinal Biodiversity in North Eastern Region of India with Special Reference to the Convention on Biological Diversity 1992 and Trade Related Aspects of Intellectual Property Rights 1994**” submitted to the Sikkim University for the partial fulfilment of the degree of Doctor of Philosophy in the Department of Law, embodies the result of bona fide research work carried out by **Miss Numa Limbu** under my guidance and supervision. No part of the thesis has been submitted for any other Degree, Diploma, Association and Fellowship.

All assistance and help received during the course of investigation have been duly acknowledged by her.

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Submitted by (*Numa Limbu*) under the supervision of (*Dr. Nidhi Saxena, Assistant Professor, Department of Law, School of Social Sciences, Sikkim University*) Gangtok, Pin:737101, India.

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**Numa Limbu**

## ABBREVIATIONS

|                 |  |
|-----------------|--|
| <b>ABS</b>      | <b>Access and Benefit Sharing</b>  |
| <b>AICRPE</b>   | <b>All India Coordinated Research Project on Ethno-biology</b>             |
| <b>AIPPI</b>    | <b>International Association for the Protection of Industrial Property</b> |
| <b>ASEAN</b>    | <b>Association of South East Asian Nations</b>                             |
| <b>ASSINSEL</b> | <b>International Association of Plant Breeders</b>                         |
| <b>ASTEC</b>    | <b>Assam Science Technology and Environment Council</b>                    |
| <b>BMC</b>      | <b>Biodiversity Management Committees</b>                                  |
| <b>CBD</b>      | <b>Convention on Biological Diversity</b>                                  |
| <b>CDIP</b>     | <b>WIPO Committee on Development and Intellectual Property</b>             |
| <b>CGIAR</b>    | <b>Consultative Group on International Agriculture Research</b>            |
| <b>CGRFA</b>    | <b>Commission on Genetic Resources for Food and Agriculture</b>            |
| <b>COP</b>      | <b>Conference of the Parties</b>   |
| <b>CPRs</b>     | <b>Common Property Resources</b>   |
| <b>CSIR</b>     | <b>Council for Scientific and Industrial Research</b>                      |
| <b>ECOSOC</b>   | <b>Economic and Social Council</b>   |
| <b>EU</b>       | <b>European Union</b>  |
| <b>FAO</b>      | <b>Food and Agriculture Organization</b>                                   |
| <b>FOD</b>      | <b>Group of Friends of Development</b>                                     |
| <b>FTA</b>      | <b>Free Trade Agreement</b>  |
| <b>GATT</b>     | <b>General Agreement on Tariffs and Trade</b>                              |
| <b>GEF</b>      | <b>Global Environment Facility</b>   |
| <b>GI</b>       | <b>Geographical Indications</b>  |
| <b>GRAIN</b>    | <b>Genetic Resources Action International</b>                              |
| <b>HYVs</b>     | <b>High Yielding's Varieties</b>   |
| <b>IARCs</b>    | <b>International Agriculture Research Center</b>                           |
| <b>IBRD</b>     | <b>International Bank for Reconstruction and Development</b>               |
| <b>ICAR</b>     | <b>Indian Council of Agricultural Research</b>                             |

|               |  |
|---------------|--|
| <b>ICCPR</b>  | <b>International Covenant on Civil and Political Rights</b>  |
| <b>ICESCR</b> | <b>International Covenant on Economic, Social and Cultural Rights</b>  |
| <b>ICT</b>    | <b>Information and Communication Technology</b>  |
| <b>IFAD</b>   | <b>The International Fund for Agriculture Development</b>  |
| <b>IGC</b>    | <b>The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore</b> |
| <b>ILM</b>    | <b>International Legal Materials</b>   |
| <b>ILO</b>    | <b>International Labour Organisation</b>   |
| <b>IP</b>     | <b>Intellectual Property</b>   |
| <b>IPGRI</b>  | <b>International Plant Genetic Resources Institute</b>   |
| <b>IPRs</b>   | <b>Intellectual Property Rights</b>  |
| <b>IRRI</b>   | <b>International Rice Research Institute</b>   |
| <b>ITO</b>    | <b>International Trade Organisation</b>  |
| <b>IU</b>     | <b>International Understanding</b>   |
| <b>IUCN</b>   | <b>International Union for Conservation of Nature</b>  |
| <b>LDCs</b>   | <b>Lesser Developed Countries</b>  |
| <b>MATs</b>   | <b>Mutually Agreed Terms</b>   |
| <b>MDGs</b>   | <b>Millennium Development Goals</b>  |
| <b>MNF</b>    | <b>Most Favored Nation Treatment</b>   |
| <b>MLS</b>    | <b>Multilateral System</b>   |
| <b>MNC</b>    | <b>Multinational Corporation</b>   |
| <b>MTA</b>    | <b>Material Transfer Agreements</b>  |
| <b>NBPGR</b>  | <b>National Bureau of Plant Genetic Resources</b>  |
| <b>NER</b>    | <b>North Eastern Region of India</b>   |
| <b>OAS</b>    | <b>Organisation of American States</b>   |

|               |   |
|---------------|---|
| <b>OAU</b>    | <b>Organisation of African Unity</b>                            |
| <b>OECD</b>   | <b>Organisation for Economic Co-operation and Development</b>   |
| <b>PBRs</b>   | <b>Plant Breeders' Rights</b>                                   |
| <b>PCT</b>    | <b>Patent Co-operation Treaty</b>                               |
| <b>PGRFA</b>  | <b>Plant Genetic Resources for Food and Agriculture</b>         |
| <b>PIC</b>    | <b>Prior Informed Consent</b>                                   |
| <b>PLT</b>    | <b>Patent Law Treaty</b>  |
| <b>PVP</b>    | <b>Plant Variety Protection</b>                                 |
| <b>PVPA</b>   | <b>US Plant Variety Protection Act</b>                          |
| <b>RET</b>    | <b>Rare, Endangered and Threatened</b>                          |
| <b>RFSTE</b>  | <b>Research Foundation of Science, Technology and Ecology</b>   |
| <b>SCP</b>    | <b>Standing Committee on the Laws Patents</b>                   |
| <b>ST</b>     | <b>Scheduled Tribes</b>   |
| <b>TBGRI</b>  | <b>Tropical Botanical Garden and Research Institute</b>         |
| <b>TEK</b>    | <b>Traditional Ecological Knowledge</b>                         |
| <b>TERI</b>   | <b>The Energy and Resources Institute</b>                       |
| <b>TGKP</b>   | <b>Traditional Group Knowledge and Practice</b>                 |
| <b>TK</b>     | <b>Traditional Knowledge</b>                                    |
| <b>TKDL</b>   | <b>Traditional Knowledge Digital Library</b>                    |
| <b>TKDS</b>   | <b>traditional knowledge docketing system</b>                   |
| <b>TRIPs</b>  | <b>Trade Related Aspects of Intellectual Property Rights</b>    |
| <b>UDHR</b>   | <b>Universal Declaration on Human Rights</b>                    |
| <b>UN</b>     | <b>United Nations</b>   |
| <b>UNCED</b>  | <b>United Nations Conference on Environment and Development</b> |
| <b>UNCLOS</b> | <b>United Nations Convention on the Laws of the Sea</b>         |

|               |  |
|---------------|--|
| <b>UNCTAD</b> | <b>United Nations Conference on Trade and Development</b>                |
| <b>UNDRIP</b> | <b>UN Declaration on the Rights of Indigenous Peoples</b>                |
| <b>UNEP</b>   | <b>United Nations Environment Programme</b>                              |
| <b>UNESCO</b> | <b>United Nations Education, Cultural and Scientific Organization</b>    |
| <b>UNFCCC</b> | <b>United Nations Framework Convention on Climate Change</b>             |
| <b>UPOV</b>   | <b>Convention for the Protection of New Varieties of Plants</b>          |
| <b>USPTO</b>  | <b>International Union for the Protection of New Varieties of Plants</b> |
| <b>WCCB</b>   | <b>Wildlife Crime Control Bureau</b>                                     |
| <b>WIPO</b>   | <b>World Intellectual Property Organisation</b>                          |
| <b>WGIP</b>   | <b>UN Working Group on Indigenous Population</b>                         |
| <b>WTO</b>    | <b>World Trade Organisation</b>  |
| <b>WWF</b>    | <b>World-Wide Forest</b>   |

## *Executive Summary*

This thesis is divided into six chapters and highlights various aspects that are covered in the research work.

The first chapter '*Introduction*' details the problem of the study in the area of medicinal biodiversity and the rights of indigenous communities. This chapter also provides the research objectives, research questions, the methodology adopted and various literature that were reviewed for the study.

The second chapter '*Problems Relating to Protection of Medicinal Biodiversity and Rights of Indigenous Communities in North Eastern Region of India*' highlights various problems that are faced by the North Eastern Region of India for providing protection to the medicinal biodiversity and the rights of indigenous communities. This chapter mentions the importance of biodiversity in NER and its relationship with the indigenous communities of the region. NER is regarded as the geographical gateway as it is home to huge biodiversity, and the potential of the available resources is huge. But, the available resources as well as the indigenous peoples in NER face various problems. This chapter discusses various problems that are faced by the indigenous communities and the issues relating to biopiracy, illegal trade, bioprospecting that is occurring in the region. Apart from these the legal and administrative issues are also discussed in this chapter.

The third chapter '*International Legal Framework for The Protection of Rights of Indigenous Communities*' discusses the international legal framework and various international instruments adopted for the protection of the rights of indigenous communities. This chapter

provides a brief history of indigenous peoples and various definitions of indigenous peoples. This chapter highlights different rights of indigenous people and the need to protect the same. Various international instruments like the Food and Agriculture Organisation, Universal Declaration of Human Rights, International Labour Organisation C169- indigenous and Tribal Peoples Convention, World Intellectual Property Organisation, United Nations Conference on Trade and Development, International Treaty on Plant Genetic Resources for Food and Agriculture, United Nations Environment Programme etc., has been discussed. The main aim of this chapter is to give an understanding about the rights of indigenous peoples and how the existing international instruments have provided protection to them and in what ways they still lack protection.

The fourth chapter '*Comparative Study of CBD and TRIPs with regards to Protection of Medicinal Biodiversity and Rights of Indigenous Communities*'. CBD and TRIPs are important international instruments and more than 130 countries are members of the agreements. The objectives of these agreements are different from each other which has often led to conflict between the two. TRIPs favours Intellectual Property Rights over community rights leading to infringement of rights of indigenous peoples, whereas CBD favours conservation and sustainable use of biological resources and also acknowledges the rights of indigenous peoples. The issues, the history, the objectives and the differences of CBD and TRIPs has been discussed in this chapter.

The fifth chapter '*Legal Framework of India for Protecting Medicinal Biodiversity*', provides an understanding about the legal framework implemented in India for providing protection to



biological resources. The historical background provides a brief of why there was a need for protection of biodiversity, environment and forest in India. Then, the chapter discusses various legislation framed and how they have fulfilled or failed to protect the medicinal biodiversity in India. Various Acts like the Indian Forest Act, 1927, Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986, The Wildlife (Protection) Act, 1972, The Biodiversity Act, 2002 and Rules of 2004 etc., have been discussed in detail. Apart from this, various policy initiatives for protection of medicinal biodiversity have also been discussed like, Traditional Knowledge Digital Library, Task Force on Conservation and Sustainable use of Medicinal Plants and National Medicinal Plant Board. The main aim of this chapter is to provide a view on how the medicinal biodiversity in India are facing various issues and in what ways the available legislation lacks to provide protection or fails to deal with the issues.

The last chapter '*Conclusion and Suggestion*' summarizes the entire study and provides suggestions after analysing every aspect of the work. An attempt has been made to point out inadequacy of existing legislation for protection of medicinal biodiversity and the rights of indigenous peoples. Likewise, various suggestions have been provided to deal with the is

**CHAPTER ONE**  
**PROTECTION OF MEDICINAL BIODIVERSITY IN NORTH EASTERN REGION**  
**OF INDIA WITH SPECIAL REFERENCE TO THE CONVENTION ON**  
**BIOLOGICAL DIVERSITY 1992 AND TRADE RELATED ASPECTS OF**  
**INTELLECTUAL PROPERTY RIGHTS 1994**

**1.1. INTRODUCTION**

The North Eastern Region of India is known for its rich biodiversity and there are a number of indigenous peoples who depend upon such resources. “Biodiversity or biological diversity includes all the variety of living beings on earth,”<sup>1</sup> including different species of “plants, animals and micro-organisms and ecosystems.”<sup>2</sup> Some of these biological resources are used for manufacturing of foods, pharmaceuticals and cosmetic products.<sup>3</sup> Therefore, the loss of biodiversity not only hampers food security and human health but also deteriorates the environment.<sup>4</sup> The biodiversity in plants of medicinal importance or medicinal biodiversity includes all resources from plants, animals and other organisms that have medicinal properties. There is no specific definition of medicinal biodiversity. Different parts of plants like its shoots, roots, barks and also animal skin, bones are used to treat different diseases.<sup>5</sup> India is known for its Ayurveda knowledge and the way of treatments with the help of natural resources. Traditional medicines such as Ayurveda, Siddha and Unani have been practiced in India since

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<sup>1</sup> What is Biodiversity? *available at:* <https://www.conserve-energy-future.com/what-is-biodiversity.php>, (last visited on February 2, 2019).

<sup>2</sup> *Id.*

<sup>3</sup> Perspectives on Biodiversity: Valuing Its Role in an Ever-changing World *available at:* [https://www.ncbi.nlm.nih.gov/books/NBK224411/pdf/Bookshelf\\_NBK224411.pdf](https://www.ncbi.nlm.nih.gov/books/NBK224411/pdf/Bookshelf_NBK224411.pdf) (last visited on February 2, 2019).

<sup>4</sup> Biodiversity: Life to our Mother Earth, *available at:* [http://nbaindia.org/uploaded/docs/ncb\\_jan\\_06\\_1.pdf](http://nbaindia.org/uploaded/docs/ncb_jan_06_1.pdf) (last visited on February 3, 2019).

<sup>5</sup> Folk Perception and Medicinal use of Biological Materials *available at:* [http://shodhganga.inflibnet.ac.in/bitstream/10603/67935/14/14\\_chapter%207.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/67935/14/14_chapter%207.pdf) (last visited on February 3, 2019).

ages and now crossing the borders. The world is praising and preferring these practices. There are traditional medicines which are practiced by the indigenous group of people and community in India specifically in the north eastern region of India and yet need to be introduced to the world. “The indigenous or tribal people have always lived in close contact with nature and depend upon such resources. North Eastern Region of India is inhabited by more than 100 different tribal communities”<sup>6</sup> They have been using the biological resources for various medicinal purposes. Various plants are used to cure diseases, like in the State of Assam plant named *Abelmoschus manihot* locally known as Aibika is used to treat chronic bronchitis and toothache,<sup>7</sup> Similarly in the State of Meghalaya plants like *Terminalia chebula*, *Moringa oliefera*, *Tinospora cordifolia* have potential anticancer activity and are used in Ayurveda.<sup>8</sup> Apart from this, there are numerous medicinal plants that are found in different states and used by the indigenous peoples. “Biodiversity plays an important economic, social and cultural role in the lives of indigenous and local communities”.<sup>9</sup> The economic rights of indigenous communities are being violated when the indigenous cultures are compartmentalized as it results in infringement on the rights of indigenous peoples to earn economic benefits from their traditional knowledge related to biodiversity, designs and traditions.<sup>10</sup> In India the term indigenous and tribal peoples are nowhere defined, but they are identified as peoples who are different from others and have their own set of culture, tradition,

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<sup>6</sup>India Traditional Ayurvedic System of Medicine and Nutritional Supplementation, *available at*:

<https://www.hindawi.com/journals/ecam/2013/376327/> (last visited April 20, 2019).

<sup>7</sup> *Abelmoschus Manihot*, *available at*:

<http://www.pfaf.org/user/Plant.aspx?LatinName=Abelmoschus+manihot> (last visited on February 3, 2019).

<sup>8</sup>AJT Sangma and Sahoo UK, “Utilization Pattern of Medicinal Plants by Different Tribes of Garo Hills of Meghalaya, 4 North-East India”. *American Journal of Ethnomedicine*. (2017)

<sup>9</sup> Numa Limbu, *Protection of Traditional Knowledge from Biopiracy: A Study with Special Reference to Sikkim*, (2018) (Unpublished MPhil Thesis, Sikkim University).

<sup>10</sup>Rebecca Bratspies, The New Discovery Doctrine: Some Thoughts on Property Rights and Traditional Knowledge, *available at*: <http://ssrn.com/abstract=987042> (last visited on February 4, 2019).

customs and languages.<sup>11</sup> Under Article 1(a) and (b) of the International Labour Organisation's Convention concerning Indigenous and Tribal People have defined them respectively, Article 1(a)<sup>12</sup> of the Convention defines Tribal people and under Article 1(b) the term indigenous is defined.<sup>13</sup> Even the Indian Constitution under Articles 244(1), 244A, 371-A and the 5<sup>th</sup> and 6<sup>th</sup> Schedule provides provisions for protection of tribal indigenous peoples or communities and their customs. The 5<sup>th</sup> and 6<sup>th</sup> Schedule under Article 244 (1) and (2), of the Indian Constitution contains provisions regarding administration of Schedule Areas and Scheduled Tribes. Article 244A provides for formation of an autonomous State comprising certain tribal areas in Assam and also to provide the autonomous State with Legislature or a Council of Ministers with powers as may be defined by law. Article 371 (A) speaks about non-applicability of certain Acts of Indian Parliament in case of the State of Nagaland which may come into conflict with the said Article. The Tribal Areas included under 6th Schedule consist of 4 states namely, Assam, Meghalaya, Tripura and Mizoram.<sup>14</sup> The objective behind providing protection to the tribal indigenous people is based on providing protection to their different ethnic, religion, and social groups and their autonomous lifestyle.<sup>15</sup> They are dependent upon the biological resources for their life. The word is inclined towards naturopathy and the traditional way of treatment; these resources may become precious for the indigenous people. Therefore, their rights to use and enjoy the benefits of such resources must be protected. However, they are

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<sup>11</sup> Who are Indigenous and Tribal Peoples?, *available at*: [https://www.ilo.org/global/topics/indigenous-tribal/WCMS\\_503321/lang--en/index.htm](https://www.ilo.org/global/topics/indigenous-tribal/WCMS_503321/lang--en/index.htm) (last visited on February 4, 2019).

<sup>12</sup> The International Labour Organisation's Convention, art.1 (a), Tribal people as people with different social, cultural and economic conditions that distinguish them from other section of the national community, and they are partially or wholly regulated by their own customs or traditions" C169-Indigenous and Tribal Peoples Convention, 1989, *available at* [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_ILO\\_CODE:C169](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169) (last visited on February 4, 2019).

<sup>13</sup> The International Labour Organisation's Convention, art.1 (b) defines Indigenous "as indigenous on the account of their descent, or geographical region, who even after the formation of State retain some of their own social, economic, cultural and political institutions.

<sup>14</sup>The Constitution of India, arts. 244, 275, 371A

<sup>15</sup> The Rights of Schedule Tribes, *available at*: <http://www.legalserviceindia.com/legal/article-32-the-rights-of-scheduled-tribes.html> (last visited on February 5, 2019).

unaware about the new developments, and their customary laws does not contain provision of such protections. The efforts are also made at international level for the protection of biodiversity and the rights of indigenous people.

**“Convention on Biological Diversity, 1992<sup>16</sup> and Trade Related Aspects on Intellectual Property Rights”<sup>17</sup>** The Convention on Biological Diversity, (hereafter referred to as CBD) 1992 was a result of the Earth Summit held in Rio de Janeiro. CBD establishes sovereign national rights over biological resources to conserve them, and use them sustainably and share the benefits. The National Governments are obliged to frame legislation in compliance to the Convention. CBD propagates the awareness about the importance of biological resources and its potential to encourage scientific and economic growth.<sup>18</sup> Similarly, there are certain provisions that recognize the rights of indigenous communities and the provisions of access and benefit sharing.

**Trade Related Aspects on Intellectual Property Rights** (hereafter referred to as TRIPs) establishes minimum standards for the protection and enforcement of intellectual property rights for members of the World Trade Organisation (hereafter referred to as WTO).<sup>19</sup> TRIPs, is an international agreement signed by member countries to protect and enforce intellectual property rights (here after IPRs) such as patents, trademarks, industrial designs, copyrights etc. TRIPs make it mandatory for every member state to give a minimum level of protection to the intellectual property of its fellow WTO members. Under the TRIPs agreement the inventor or creator have their rights to stop others from stealing or using their inventions.<sup>20</sup>

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<sup>16</sup> Convention on Biological Diversity, 1992.

<sup>17</sup> Agreement on Trade Related Aspects of Intellectual Property Rights, 1994.

<sup>18</sup> *Supra* note 16.

<sup>19</sup> TRIPs: General Provisions and Basic Principles, *available at*:

[https://www.wto.org/english/docs\\_e/legal\\_e/27-trips\\_03\\_e.htm](https://www.wto.org/english/docs_e/legal_e/27-trips_03_e.htm) (last visited on February 4, 2019).

<sup>20</sup> Intellectual Property: Protection and Enforcement, *available at*:

[https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm7\\_e.htm](https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm) (last visited on February 4, 2019).

**India**, a signatory of CBD and TRIPs, and is one of the biodiversity hotspots in the world as it harbors 7-8% of resources and includes a huge variety of plant and animal.<sup>21</sup> Apart from this there are a number of medicinal plants which have been a part of traditional knowledge of the country. The medicinal resources have always been in demand for commercial purposes, but with the number of biopiracy cases there is an urgent need to provide protection to medicinal biodiversity.<sup>22</sup> India implemented the Biological Diversity Act, 2002 in compliance with CBD. In compliance to TRIPs Agreement, India has amended and framed various Acts like, the Patent Act, 1970, Patent (Amendment) Act, 2005, Geographical Indication (Registration and Protection) Act, 1999, Copyright Act 1957, Copyright (Amendment) Act, 2012 and Trademark Act 1999 etc. also in accordance to the provision of Article 27 (3) (b) of TRIPs agreement *Sui generis* Act i.e. Plant Variety Protection and Farmers' Rights Act, 2002 was framed.

Traditional Knowledge Digital Library (hereafter referred to as TKDL) is another significant step undertaken by “the Council of Scientific and Industrial Research and the Ministry of AYUSH”<sup>23</sup> that aims to provide protection to traditional knowledge especially about medicinal plants. Knowledge of indigenous communities are digitally codified so that the patents cannot be claimed over them. As the TKDL enters into an agreement with different Patent Offices, it can challenge patent applications that involve TK of India. The step is to protect the traditional medicinal knowledge and may be helpful in protecting the medicinal resources that are found in the North Eastern Region. As the region is rich in biodiversity and constitutes one of the 18th hotspots of the world.

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<sup>21</sup> Biodiversity Hotspots in India, *available at*: [http://www.bsienvi.nic.in/Database/Biodiversity-Hotspots-in-India\\_20500.aspx](http://www.bsienvi.nic.in/Database/Biodiversity-Hotspots-in-India_20500.aspx) (last visited on February 4, 2019).

<sup>22</sup> Conservation of Biodiversity, *available at*: <http://www.pib.nic.in/newsite/mbErel.aspx?relid=105134> (last visited on February 4, 2019).

<sup>23</sup> Ayurveda, Yoga, and Naturopathy, Unani, Siddha and Homoeopathy.

**North Eastern Region** (hereafter referred to as NER) of India comprises “the states of Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Tripura, Nagaland and Sikkim”<sup>24</sup>. The NER is rich in biodiversity and there are a number of ethnic communities who rely on the traditional use of resources for numerous reasons.<sup>25</sup> NER region is rich in biodiversity and there are a number of plants and animals which are used as drugs or medicaments.<sup>26</sup> NER is identified by the Indian Council of Agricultural Research (hereafter referred to as ICAR) as a center of rice germ-plasm. The National Bureau of Plant Genetic Resources (hereafter referred to as NBPGR) refer NER to be rich in ‘Wild Relatives of Crop Plants’. The NER is inhabited by different indigenous communities and they have their own custom-based ‘intellectual property’ system which is considerably different from western concepts of intellectual property. These locally adopted systems “classify different types of knowledge, the methods used to acquire and share, also their rights and responsibilities for conserving the knowledge available.”<sup>27</sup>

Hence, the problems regarding to protection of medicinal biodiversity and the rights of indigenous communities can be discussed into five different parts firstly, the issue relating to recognition of intellectual property rights of the indigenous communities over the medicinal resources, secondly the issue relating to illegal trade and biopiracy that is rampant in NER thirdly, the areas of conflicts in the provisions of International Instruments i.e. CBD and TRIPs, fourthly, the inadequacy of laws that are enacted at national level for protection of medicinal resources and lastly the enforcement problem at the state level.

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<sup>24</sup> The Indian States.

<sup>25</sup> Review of Biodiversity in North East India, *available at*: [http://siteresources.worldbank.org/INTSAREGTOPWATRES/Resources/Background\\_Paper\\_13.pdf](http://siteresources.worldbank.org/INTSAREGTOPWATRES/Resources/Background_Paper_13.pdf) (last visited on February 5, 2019).

<sup>26</sup> India’s take on Conservation on Biological Diversity, *available at*: <http://www.mondaq.com/india/x/650600/Environmental+Law/Indias+Take+On+Conservation+Of+Biological+Diversity> (last visited on February 4, 2019).

<sup>27</sup> The challenge of customary laws of indigenous people of North-east, *available at*: <https://www.sentinelassam.com/news/the-challenge-of-customary-laws-of-indigenous-people-of-north-east/> (last visited on February 17, 2019).

## **1.2. STATEMENT OF PROBLEM**

### **1.2.1. No recognition of Intellectual Property Rights of Indigenous People over Medicinal Biodiversity neither in any International Instrument nor in existing Indian Laws**

The indigenous peoples use biological resources for various purposes. Their rights over the resources, lands, forests are recognised by various international laws and also under the human rights instruments. Some of the international instruments that recognise their rights are Indigenous and Tribal Peoples Convention of 1989 which recognise their rights to land. Similarly, the Convention on Biological Diversity, 1992 also establishes the international standards for the protection of the rights of the indigenous peoples or communities over the resources. ‘The United Nations Declaration on the Rights of Indigenous Peoples, 2007’ has recognised the use of the natural resources as human rights of indigenous people and emphasized that the uses of the natural resources are to be protected by the states together with the traditional practices that they have followed since ages.<sup>28</sup> The Constitution of India also provides protection to the tribal indigenous communities and their customs under various Articles. In furtherance of constitutional mandates, the parliament passed legislation “The Schedule Tribe and Forest Dwellers Act, 2006”. The Act provides provisions for protection of the rights of forest dwellers and tribal people the right to live in and hold the land which includes their right to ownership over the land, to connect, use the resources available to them and they also have right to protect, conserve, cultivate, and manage such resources which they have been using since ancient times and in a traditional manner.<sup>29</sup>

The social, cultural rights of the indigenous people are protected under various instruments, Indian and international but the economic rights are neither recognised nor safeguarded. In

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<sup>28</sup> Land Rights are Human Rights, *available at*: <https://sur.conectas.org/en/land-rights-human-rights/> (last visited on February 6, 2019).

<sup>29</sup> The Schedule Tribe and Other Forest Dwellers Act (Recognition of Forest Rights),2006.



several news reports the issues of biopiracy in the state of Nagaland, Arunachal Pradesh and Assam has been reported and can be quoted as an example of violations of these very rights. In the recent judgment of the Supreme Court of India, the court ordered for the eviction of the tribal people from their lands and their claims as protected under the Forest Rights Acts are rejected.<sup>30</sup> Their rights over the use of resources have also been infringed many times. The Medicinal resources have economic value and if they are used by the scientists and converted into medicine the patents protection may result into the loss of economic rights of indigenous communities as happened in the case of Kani tribe, (Jeevani Case) the people did get some benefits but lost the rights over the use of resources forever. As their monetary rights are not recognised the medicinal resources can be misappropriated by big cooperates. The rights of indigenous people over biological resources having medicinal properties are huge but without proper legal protection there are no benefits that can result from it. Recognising the IP rights of indigenous communities can give them power to regulate the use of the medicinal resources and their knowledge over that. But without a specific provision of IP rights of the indigenous communities over such resources could result in economic loss not only to the tribal indigenous people but country as well and affect the growth and development of the country.

### **1.2.2. Issues relating to Illegal Trade and Biopiracy/Bioprospecting in North Eastern Region**

Illegal trade of biological resources both plants and animals are the 4th largest organised crime sector all across the world. It has emerged as Organised Transnational Crime that has threatened the existence of many wild species. In India various animals like Tiger and Leopard, their claws, bones, skin, whiskers, Elephant tusks, deer antlers, medicinal plants, timber and

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<sup>30</sup> Wildlife First & Others vs Ministry of Forest and Environment & Others. Writ Petition No 109/2008.

many rare birds are illegally traded. The Wildlife (Protection) Act, 1972 and Indian Forest Act 1927 are there for the protection of wildlife and forests in India. However, both the Acts don't contain any provision for the protection of medicinal diversity.

In the North Eastern Region of India there is no strict legislation hence animals like pangolins, tigers, rhino are hunted down as the body parts of such animals have certain medicinal properties.<sup>31</sup> The local people on the demand of middle man kill the animal or collect resources as asked on payment, unknowingly becoming the part of illegal trade. The forest officers fail to check such incidents. In such a situation no provision of liability in case failure to catch the culprits encourages the rapid exploitation and theft of resources. The lack of communication, ineffective implementation, lack of enforcement and weak penalties for legal infringements are causing an increase in illegal wildlife trade.

Biopiracy is rampant in NER of India. Due to absence of any strict legislation of biopiracy India faced many cases such as the neem case, basmati case etc. Recently, pharmaceutical companies with the help of local people have taken away various medicinal plants from Nagaland.<sup>32</sup> Huge varieties of medicinal plants like *Coptis teeta*, *Actinodaphne angustifloia* *Nees*, *Asparagus recemous* *Willd* are being misappropriated by the bio pirates. In 2016 two nationals from US and UK were arrested by forest department of Sikkim for illegal collection of biological resources.<sup>33</sup> Biopiracy is leading to Bioprospecting. The lack of contract and permission from the indigenous communities leads to loss of rights of the people. The bio

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<sup>31</sup>Tanmay Chatterjee " Bengal Tops in Illegal Wildlife Trade in Eastern India, int'l gangs most active", *Hindustan Times*, July 21, 2018 available at: <https://m.hindustantimes.com/kolkata/bengal-tops-in-illegal-wildlife-trade-in-eastern-india-int-l-gangs-most-active/story-D7dxJvwkIYaU1TKCwiQvjL.html> (last visited on February 7, 2019).

<sup>32</sup> HT Correspondence "Biopiracy rampant in Nagaland", *Hindustan times*, May 03, 2008 available at: <https://www.hindustantimes.com/india/bio-piracy-rampant-in-nagaland/story-iiym3bA2uV0y6k4Rjn7tO.html> (last visited on February 9, 2019).

<sup>33</sup> Nirmal Mangar, "Sikkim alerts tour operators to bio-pirates", *The Telegraph Online*, January 12, 2016 available at: <https://m.telegraphindia.com/states/west-bengal/sikkim-alerts-tour-operators-to-bio-pirates/cid/1523742> (last visited on February 9, 2019).

prospectors mainly look for medicinal resources to come up with new medicines, but at the cost of the rights of indigenous communities as happened in the case of Jeevani also known as Kani tribe case.

### **1.2.3. Conflict in the provisions of International Instruments for Protection of Medicinal Biodiversity**

TRIPs and CBD have different principles and the area of protection that they offer are different from each other. There are several provisions that are in conflict with each other. Firstly, the TRIPs Agreement is based on providing the monopoly to the inventor or creator whereas CBD protects the community rights over the biological resources. The rights under TRIPs agreement are available to the persons or institutions and therefore they can get patent protection over a country's biological resources, if they meet the statutory requirements. This may affect the developing country to protect their resources within their sovereign power and their right to exploit or use their resources. The sovereign power to determine the access and benefit sharing arrangements of biological resources is affected too.

Secondly, there is no provision under the TRIPs regarding the access and the sharing of benefits over the use of the resources by the patent holder. In the absence of any provision the country of origin cannot take any action to protect its biodiversity or get any opportunity to enforce its benefit-sharing rights against the corporation/person who obtains the patent over a product obtained by the use of its biological resources. The Convention on Biological Diversity under Article 15, 16 and 19 provides the provisions for fair and equitable sharing of benefits and the main focus to protect the biological resources and the benefit sharing.

Lastly, Article 27 of TRIPs does not specifically exclude discoveries from patent protection, and for availing patent invention it requires novelty, inventive steps and industrial application as mandatory criteria. Biotechnological development has led to the use of biological resources

and traditional knowledge for many inventions. This knowledge cannot be considered new as such knowledge is available in the public domain, known to all. Such knowledge is utilized by many scientists many times for their inventions. Also, Article 27.3(b) of TRIPs though not mandatory but directs the countries to provide patent protection on microorganisms, non-biological and microbiological processes leading to the probability of patenting of biological resources. If such biological resources are used, this may affect the economic rights of indigenous tribal people of that locality and their chance to earn out of their traditional knowledge further.

#### **1.2.4. Inadequacy of National Legislations for the Protection of Medicinal Biodiversity**

As India is a signatory to TRIPS, and CBD, so the national legislations comply to the provisions of both the agreement, but these legislations are inadequate to provide protection to medicinal biodiversity of the country. There are no specific provisions for protecting the medicinal biodiversity making it vulnerable to misappropriation. The Patent law ensures the rights of an inventor over his/her research. The Patent Act of 1970 excluded patentability of genetic resources. Later the Patent Act (Amendment) Act of 2005 provided provision for applicants to disclose the source or origin of the biological resource in the patent application compulsorily.<sup>34</sup> Though this Amendment measures were adopted to recognise and protect traditional knowledge or the idea of prior art. But the Act does not provide any provision of remedy to the one who needs to oppose the granting of such a patent or to ask for revocation of the same once it is granted on the traditional knowledge without the consent of the indigenous peoples. Further, it is very difficult to track down the uses of the resources because most of the knowledge is orally transmitted from one generation to another. Another issue is traditional knowledge is known to all, therefore, the requirement of novelty cannot be met, yet a patent is

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<sup>34</sup> The Patent (Amendment) Act, 2005. s.10

granted. The Patent (Amendment) Act though allows the indigenous manufactures to make patented products in respect of mailbox application on payment of reasonable royalty to patent holders if they were producing or marketing such product prior to 1/1/2005. But this also raises questions as to why the indigenous manufacturers using such products freely before, need to pay royalty for it. The protection of traditional knowledge related biological resources are not available in the Patent Act of India.

**The Geographical Indication (Registration and Protection) Act, 1999** provides protection to the goods originating in a country, and to qualify for Geographical Indications (hereafter referred to as GI) it is necessary that the goods must have the “quality, reputation, and other characteristics”<sup>35</sup> that are essentially attributable to its geographical origin. The main aim of GIs is to avoid confusion to consumers and also to avoid unfair competition and reputation theft. Most GIs in India are provided with handicrafts. Darjeeling Tea, Large Cardamoms are agricultural products that are registered as GI in India. The Act is not applicable on medicinal plants as it requires that the goods must include the origin of the goods, specify specific “quality, reputation, or other characteristics attributable to the geographical origin” and any traditional value that is linked directly between the product and its origin.

**The Protection of Plant Varieties and Farmers Rights Act, 2001** is a *Sui generis* legislation of India to provide protection to the new varieties of plants which includes registration of existing varieties, payment of compensation and benefit sharing to the community. However, the Act does not provide protection to medicinal biodiversity. The law is applicable if the plant varieties are medicinal plants. Therefore, the Act fails to recognise the traditional knowledge of medicinal resources.

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<sup>35</sup> The Geographical Indication (Registration and Protection) Act, 1999

The Biological Diversity Act, 2002, aims at conservation of biological resources, sustainable use of the same. Further provisions are laid down for equitable benefits sharing that is resulted from the use of such resources. The Act imposes certain limitations on access to biological resources or related knowledge by the foreigners. Section 3 and 6 lays down the requirement of prior approval of the National Biodiversity Authority for conducting activities like research.<sup>36</sup> The Biological Diversity Act, 2002, has three major limitations in protection of medicinal biodiversity and rights of indigenous people. Firstly, there are no specific provisions under the Act that provide protection to medicinal biodiversity. The emphasis is given only on conservation and sustainable use of biological resources as a whole. This inadequacy is leading to the issues of illegal trade and biopiracy and further results into the violation of rights of indigenous communities over the knowledge of medicinal resources. Secondly, Prior Informed Consent (hereafter referred to as PIC) and Access and Benefit Sharing (hereafter referred to as ABS) provisions face various issues. The ABS framework requires the PIC of government for access to genetic resources but there is rare occasion when the PIC of the communities is obtained, when the resources are collected from their lands. This results in failure of benefit sharing provision under the Act. Also, there are no determined standards of PIC. Further, under Rule 20 of the Biodiversity Rules, read with section 19 and 20 of the Biodiversity Act, deals with the procedural provisions for determining benefit sharing. The benefits that arise out of the utilisation are sometimes never given to the communities who own the resources. Thirdly, there is no proper mechanism to look into the matter of benefit sharing and violations of the requirement of prior informed consent. The inadequacy of these provisions leads to violations of rights and loss to the economy. Besides laws, TKDL is another step taken towards the protection of medicinal diversity. Though the TKDL is a very efficient step to prevent biopiracy issues, yet various problems related to updating of different TK are recurrent. This

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<sup>36</sup> The Biological Diversity Act, 2002 ss. 3,6

un-updated database may result in the similar issues of biopiracy, illegal trade and erroneous claim of patents. The other problem is that TKDL doesn't provide any commercial benefits to the indigenous communities.

### **1.2.5. North Eastern Region Rules inadequate to provide Protection to Medicinal Biodiversity**

The North Eastern Region of India consists of eight States and each State has framed their Biological Diversity Rules<sup>37</sup> in accordance with Section 22<sup>38</sup>, 62<sup>39</sup> and 63<sup>40</sup> of the Biodiversity Act, 2002. There are major issues with 'the Rule,' firstly, 'the Rules' does not provide any provision on the protection of medicinal diversity. Such inadequacy results in economic loss of indigenous communities. Secondly, improper functioning of the Biodiversity Management Committee that is constituted by the State biodiversity Boards at the district level. The Committee is also required to prepare and maintain the People's Biodiversity Register after consulting with the local people. The register must include the information on the available local biological resources, the knowledge related to such resources, their medicinal or any other use of traditional knowledge associated with them. The documentation of medicinal biodiversity may control the issues of biopiracy and the erroneous claim of patents. However, there is neither proper maintenance of the register nor any fixation of liability clause in 'the Rule' of the committee on failure to do so. The process of registration is at the initial stage in most of the states resulting in poor implementation of Biodiversity Rules.

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<sup>37</sup> The Biodiversity Rules, 2004

<sup>38</sup> The Biodiversity Act, 2002, s.22

<sup>39</sup> The Biodiversity Act, 2002, s.62

<sup>40</sup> The Biodiversity Act, 2002, s.63

## 1.6. LITERATURE REVIEW

The statement of problem is developed after going through the following articles and is based on the research gaps identified.

**Mpazi Sinjela and Robin Ramcharan**, in their article *“Protecting Traditional Knowledge and Traditional Medicines of Indigenous Peoples through Intellectual Property Rights: Issues, Challenges and Strategies”*, 12JSTOR4(2005) points out the issues that are related to protection of rights of indigenous people under international laws. They highlight the importance of traditional knowledge and its various contributions to development of new products. According to them “traditional knowledge or indigenous knowledge are part of the cultural and economic wealth of countries and hence must be protected”. The article mainly discusses the role of indigenous knowledge and the need to provide protection to the knowledge holders. However, the article lacks on providing suggestions on how protection can be provided to the rights of indigenous communities.

**Krystyna Swiderska**, in her paper *“Protecting Community Rights over Traditional Knowledge: Implications of Customary Laws and Practices”*, IIED (2009) has highlighted the policy issues and challenges surrounding the protection of traditional knowledge relating to biological resources and also recognition of customary law systems. She has also pointed out the issue of biopiracy. She has highlighted the relationship of customary law with ownership of traditional knowledge, access and benefit sharing, customary law in decision making etc. She concludes her work by discussing how protection can be provided to the traditional knowledge related to biological resources. According to her, “national and international policies must focus on providing protection to traditional knowledge and its



various components.” Apart from all the above-mentioned suggestion she also “recommends that proper access and benefit sharing mechanism must be set up, the prior informed consent must be taken before accessing the resources.”

**Philippe Cullet**, in “*Human Rights and Intellectual Property Protection in the TRIPs Era*”, 29*JSTOR*405 (2007) points out how the emerging IP rights has a negative impact on human rights. The writer has divided the article into three parts, firstly he points out the impact of intellectual property upon the right to health. Secondly, the need for protecting individuals for contributing to the existing knowledge and lastly, the need to provide protection to human beings for their contribution to knowledge. He favours protection of human right over the knowledge and the use of it rather than exclusive rights as given under TRIPs. However, the author does not discuss how the human rights of indigenous communities can be protected. It lacks a proper guide as to how the rights of indigenous communities be protected.

**Christian Nellemann, Rune Henriksen** in “*The Environmental Crime Crisis: Threat to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources*,” UNEP (2014) highlights the rise of illegal trade in wildlife. The report by UNEP which was initiated for better insight of the phenomena has also been discussed. Most of the cases of illegal trade have been discussed. The report also discusses the legal and illegal exploitation and various loopholes that cause it. According to the findings illegal trade involves a wide range of species, they are traded for various purposes like pharmaceuticals, food, pets, ornamental or traditional medicinal uses. Apart from this recommendation are given under page 11 to address the issue.

WWF report titled, *“Illegal and Unsustainable Wildlife Trade”*<sup>41</sup> highlights the issue of illegal and unsustainable wildlife trade that has directly threatened the survival of many species in the wild. Activities like ‘poaching of elephants, tigers for their ivory, skins and bones’ are very common. It not only hampers the species but also affects the livelihoods of millions of people who depend on local wild animals for meat and on local trees and plants for fuel and medicine. The recommendations are made like tightening the provisions in the legislation, and educating the public about the issues of the trade.

**Biswajit Dhar et al.**, in their book *“Regime of Intellectual Property Protection for Biodiversity: A Developing Country Perspective”* New Delhi: Interest Publication, 2001 discuss the various challenges faced by developing countries with the introduction of IPR. The impact of IPRs on conservation and use of biodiversity has also been discussed by the authors. Similarly, the issues that are faced by the indigenous communities have also been highlighted. Various Acts that are adopted and amended by the Indian legislature in compliance to the TRIPs Agreement have been discussed. Lastly, an important case of the Kani Tribes has been discussed. The book gives detailed information about the impact of IPRs on developing countries.

**Sayan Bhattacharya** in his article *“Bioprospecting, Biopiracy and Food Security in India: The Emerging Sides of Neoliberalism”*, 23ISH 49-56 (2014) mentions various issues of bioprospecting and biopiracy in India. He highlights the cases on biopiracy in India i.e. Haldi, Basmati, Neem case etc. With all this theft on the biological resources the writer concerns about the impact of it on food security. According to him “there must be balance and proper regulation to see that the resources are not misused and the people get the benefits.” In page

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<sup>41</sup> Illegal and Unsustainable Wildlife Trade, available at: <https://www.worldwildlife.org/threats/illegal-wildlife-trade#overview> (last visited on March 10, 2019).

54-55 of the article he mentions the legal perspectives of biopiracy. He highlights the points that the strategies that UNDP discussed to assist the indigenous people to claim over the resources that they own. Like while depositing genetic resources to gene bank or while claiming patents, the requirement of mentioning the name of the individuals or communities concerned together with the origin of the resources. Formation of tribunals to decide the matter between indigenous communities and patent claimers.

**Jakkrit Kuanpoth** in his book “*Patent Rights in Pharmaceuticals in Developing Countries*” **Major Challenges for the Future**, UK, Edward Elgar Publishing Limited, 2010 raise the question on the impacts of patents in developing countries. He mainly discusses as “to what extent patent protection for Pharmaceuticals is advantageous to long-term improvement of living standards and the provision of health care in the developing countries.” He also tries to examine the functions of the patent system and the contribution and effects of the patent system. He makes a comparison between the situation of India and Thailand; the different Laws are discussed. Lastly, he discusses the inadequacy that exists in the current patent system.

**Charles R. McManis** in his article “*The Interface Between International Intellectual Property and Environmental Protection: Biodiversity and Biotechnology*”,<sup>76</sup>*Wash.U.L. Q255*(1998) discusses the two International Instrument i.e. CBD and TRIPs. He points out how the TRIPs are in favour of the developed countries and CBD in favour of the developing countries. He has highlighted the problems that exist between the TRIPs and CBD. He concludes by pointing out that differences must be changed into cooperation between the instruments to provide protection to biodiversity. The article doesn't not mention how cooperation can be availed between provisions of CBD and TRIPs.

**Syamal Krishna Ghosh** in his article “*Biodiversity and IPR-Ethics and Politics*’ ,5JIPR198 (2005). discuss the importance of biodiversity and various impacts of TRIPs on it. He mentions various cases of biopiracy and bio-colonisation of bio-resources. Though new biotechnology tools have helped in development but have a potential negative impact. The writer is of the opinion that India must think before making any advancement as it can have a negative impact on the biological resources present in India. He proposes that India should try to accept the IPR framework to safeguard biological resources and to promote TK.

**G. Kristin Rosendal**, in her journal “*Impact of Overlapping International Regimes: The Case of Biodiversity*”, 7JSTOR95 (2001) has mentioned the overlapping between environmental and trade-related regime i.e. Convention on Biological Diversity (CBD) and Trade related Aspects of Intellectual Property Rights (TRIPS) under WTO. The author has discussed the concerns relating to overlap of both diverging norms and diverging regulations. She has tried to provide some harmonious norms and rules in order to determine the scope of overlapping between the two regimes. Though a clear map of overlapping has not been discussed, various provisions under TRIPs which disregard the provisions of Convention on biological diversity are mentioned. The issue relating to access and benefit sharing that has not been recognised under TRIPs Agreement has been highlighted.

**S.K Verma** in “*Biodiversity and Intellectual Property Rights*,” 39JIL/211(1997) mentions the impact of CBD and TRIPs. According to him the provisions of TRIPs a more powerful and most of the times the provisions of CBD are not taken into consideration. He is of the opinion that TRIPs are used by the developed countries to misappropriate the biological resources of the developing countries. To support his argument, he has laid down various cases of biopiracy.

**Aykut Cobar**, in his article “*Caught between State-Sovereign Rights and Property Rights: Regulating Biodiversity*”,<sup>11</sup>RIPE736-762 (2014) discusses the various provisions of CBD and TRIPs. The question relating to regulating access to biological resources has been discussed. The question as to whether the corporations have greater interest in the biological resources of a country has been discussed. The writer then suggests that CBD and TRIPs though different but must complement each other's provisions rather than contradicting it.

**K. Venkataraman**, in his article “*Intellectual Property Rights, TK and Biodiversity of India*” 13JIPR (2008) discusses the rich biodiversity in India and the need to look at the rapid decreases in various biological resources. He is of the opinion that most of the loss is taking place because various biodiversity associated knowledge are granted monopoly under the TRIPs. He also highlights the role played by CBD to look at the various issues related to TK and conservation of biological resources. The loss of biological resources hampers the traditional lifestyle indigenous people. Various issues like patents on traditional medicine, protection of plant varieties have been discussed. Similarly, access and benefit sharing issues have been discussed in page 331 of the article. He has also discussed various initiatives adopted by the Indian Government for providing protection to biodiversity. Together with this he has discussed various loopholes that exist in legislation. Though the author has tried to discuss the various causes, various problems that are faced by biodiversity and TK, but he fails to provide solutions to prevent it.

**Zubair Ahmed Khan** in his article “*Protection of Biodiversity in India and Bangladesh: A Legal Perspective*”, *ILI Law Review* (2016) describes the importance of biodiversity and its need to provide protection. According to him, protection of biodiversity in India and Bangladesh is quite challenging as both the countries are highly enriched with traditional and indigenous resources. The most challenging situation is the rights indigenous people living in

a particular area, their respective right of benefit sharing, specific prior-informed consent. He then highlights the need to understand the obligation of local administration in protecting biodiversity and how far they are successful in managing the proper commercial utilisation of indigenous resources by providing proportionate monetary rights to indigenous people.

**M.G. Murray** in his article “*Current issues in Biodiversity Conservation*”, FAO, Rome (Italy), (2002) has described the concept, meaning of biodiversity and its various kinds. He has highlighted the various threats to biodiversity and an urgent need for conservation of the same. He suggests that various steps need to be implemented to provide protection to biodiversity. He describes various issues but fails to provide a solution on how the issues can be solved.

**Dr. Manoj Kumar Sadual** in his article “*Bio-piracy and Traditional Knowledge: A Discussion on Indian Legal Perspectives*”, 1RJIMS14 (2015) mentions how Traditional Knowledge rich country like India has neglected the importance of traditional knowledge and its economic utility. Leading to biopiracy for examples like neem, turmeric, basmati, karela cases. Even with all the issue of biopiracy there is no specific legislation to look into matter. According to him developing countries like India where biological resources is in abundance, and the resources being part of traditional knowledge of indigenous communities, must frame a strict legislation to protect the same. He also highlights the legislative responses that India has adopted to deal with issue of biopiracy. Even with certain Acts providing protection to traditional knowledge it is being misappropriated. He concludes by highlighting the importance of traditional knowledge, the role that is played by it. Lastly, he suggests that “a *Sui generis* legislation must be implemented to protect traditional knowledge”.

**S.K Verma** in his article, “*Access to Biological and Genetic resources and their Protection*”, 43*JILI* (2001) has mentioned the various impacts upon biological and genetic resources with the implementation of CBD and TRIPs. He points out the provisions where the two instruments overlap with each other. A detailed study of the provisions of TRIPs and CBD is mentioned. Together with this he also points out the various biopiracy cases and suggests that to address the biopiracy issues, a proper mechanism needs to be designed.

**Prashant Reddy and Malathi Lakshmileumaran** in their article “*Protecting Traditional Knowledge Related to Biological Resources: Is Scientific Research Going to Become More Bureaucratized?*”,<sup>42</sup> Seeks to answer the question on how to protect the traditional knowledge related to biological resources. The concern of developing countries about protecting the TK related to biological resources of the TK holders under the existing IP regime. The protection of biological resources is more complicated one. They have mentioned the case of aogyapacha plant used by Kani Tribe and various issues that it had brought about. They also point out the provision under Biological Diversity Act, 2002 which requires that there must be mutual agreement between the applicant, local bodies concerned and the benefit claimants. But in actual sense there is no evidence of benefit claimants entering such agreements and it is the NBA who has the final say on how benefits can be accessed.

**Ananda Mohan Bhattarai**, in his book “*Protection of Himalayan Biodiversity,*” ‘*International Environmental Law and a Regional Legal Framework*’, SAGE, 2010 discusses the number of causes as to why the conservation of biodiversity of the Himalaya and sustainable use of its component and protection of traditional knowledge needs attention”. “He

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<sup>42</sup> Prashant Reddy and Malathi Lakshmileumaran, “Protecting Traditional Knowledge Related to Biological Resources: Is Scientific Research Going to Become More Bureaucratized?”, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4588132/> (last visited on April 13,2019).

has emphasized three objectives: coordination of national laws and policies; improvement of regional law for conservation and sustainable use of biological diversity and protection of the biodiversity-based knowledge system; and promoting a common approach to unresolved biodiversity related issues at the international and national level. He also has made a comparison of patent laws between the US and Europe, according to him the Patent Cooperation Treaty (PCT) 1970 was a major first step towards internationalization of the patent regime. Later he also highlights the role played by the International Convention for the Protection of New Varieties of Plants (UPOV) 1961”.

**Ryan Abbott**, in his article “*Documenting Traditional Medicinal Knowledge*” WIPO 2014, provides help to traditional knowledge holders, government representatives and third-party collaborators to understand the issues of Intellectual Property law related to Traditional medicinal knowledge. The writers have highlighted the rising importance of traditional medical knowledge. According to the writer, traditional medical knowledge consists of million-dollar, international industry hence, documentation and protection of these medicines has become a great necessity. The text also highlights the problems that are faced by traditional medical knowledge and the lack of proper solutions. The text does not provide any legal solutions but suggests that the public must be aware about the importance of traditional medical knowledge and must strive to protect the same.

**Jubilee Purkayastha** in her book, “*Bioprospecting of Indigenous Bioresources of North-East India*”, Singapore: Springer Singapore, 2016 provides information about indigenous bioresources of NER of India. According to the author the bio resources of NER are over exploited. The book offers information about various levels of bioprospecting of the gene pool of the Indo-Burma Mega Biodiversity hotspot. The author suggests that sustainable



exploitation must be done so that the indigenous people get the benefits out of it. According to her, a lot can be done if indigenous biodiversity of North East India is explored. In her book she suggests that with bioprospecting the gap that exists between development and bio resources can be filled. As with the help of bioprospecting the various resources can be utilised and the indigenous people would get the benefits arising out of it.

**Aniruddha Roy, et al.**, in their article “*Biodiversity in North East India and Their Conservation*” 15 *IJPA*182-189, (2015) mentions the various species found in North East India. The varieties of crops, fruits, medicinal and aromatic plants found in the North East have been mentioned. The role played by women and tribal people in conservation of biodiversity has been pointed out. They also mention that even without written land records of ownerships the tribal people have been playing an important role in maintaining biodiversity, natural resources, hills etc. Their role in conserving biodiversity must not be forgotten and their rights over the resources must be recognised.

**Sudipto Chatterjee, et al**, in their paper on “*Biodiversity significance of North East India for the Study on Natural Resources, Water and Environment Nexus for Development and Growth in North East India*” WWF-India, New Delhi (2006) has mentioned the importance of biodiversity and various threats to it. They have highlighted the reasons why North East India is regarded to be a biodiversity hotspot. In pages 18-19 they have mentioned the legal and policy issues that are related to protection of biodiversity in the North Eastern Region of India. According to them the North East Region of India has different needs as compared to other regions of India. They suggest that separate laws should be designed for the NorthEast Region. Apart from framing or designing a new law, they also point out the need to address the

conflicts between the customary laws and statutory laws related to forest ownership and the use of natural resources by the local communities.

**E. Jayantakumar Singh, et al.**, in their article “*Biodiversity conservation and natural resources in North East India- with special reference to Manipur*”, 1(2019) have mentioned the significance of biodiversity in human society. Biodiversity supplies humans with various forms of sources like food, fuel, fodder, fertiliser, fiber timber and medicines etc. The states of North East India are rich in biodiversity. There are unique resources only available in the North Eastern Region of India and also highlighted various threats to biodiversity. Apart from threats they also have laid down various conservation methods like protection and sustainable use of genetic resources through appropriate laws and practices and organising conservation of environmental awareness into a social movement.

**Chandra Prakash Kala, et al.**, in their article “*Developing the medicinal plants sector in Northern India: Challenges and Opportunities*,” 2JEBEM (2016) points out the importance of medicinal plants. The role played by the medicinal plants in specific areas, and how it is being misused recently. The various challenges and opportunities for developing a medicinal plant sector have been discussed. They have highlighted the use of medicinal plants and the increasing demand at the international market. They also mention the issues of biopiracy and bioprospecting that are increasing day by day. According to them a legal system must be implemented to look into the issue of biopiracy. They also point out the need to control the illegal marketing of the resources. The issue of illegal marketing of resources is very common in NER, even then nothing much has been done to address the issue. With rampant biopiracy and illegal trade they fear that the resources might become extinct. Apart from a strong legal

system they believe that if the people are aware of the importance of medicinal resources the conservation of the resources is possible.

**Rajesh Verma** in his book, “*People and Forest in North East India*”, New Delhi, Mittal Publications, (2012) describes the relationship between the forest and the people. According to him “the forest plays an important role in the social, economic and cultural activities of the forest dwelling communities”. Hence, the rights of the forest dwellers must be recognised, the manner in which they have used the resources and their knowledge must be acknowledged. The book provides a light at the situation of the forest dwellers living in North East India and the need to protect their rights.

## **1.7. HYPOTHESIS**

*Inadequacy of legislation led by misappropriation of medicinal biodiversity is adversely affecting the Intellectual Property Rights of Indigenous People in the North Eastern Region of India.*

*A Sui generis legislative protection of the Rights of Indigenous Communities in North Eastern Region of India would provide Protection to the Medicinal Bio-diversity of the Region.*

## **1.8. RESEARCH OBJECTIVES**

1. To examine the provisions of the CBD and TRIPs and find out their role played in providing protection to medicinal biodiversity.
2. To examine the provisions of various International Instruments and their role played in providing protection to rights of indigenous communities.

3. To analyze and examine the adequacy of National Laws for providing Intellectual Property rights of Indigenous people in medicinal biodiversity.
4. To examine the administrative measures that are adopted for protection of Medicinal diversity and the rights of indigenous communities in the North Eastern Region of India.

### **1.9. RESEARCH QUESTION**

1. How various medicinal biodiversity found in the North Eastern Region of India are protected under National laws, and to what extent inadequacy of laws are handled by the 'Biodiversity Rules' of North Eastern Region?
2. How far International Instruments are providing protection to medicinal biodiversity and what measures has the international community has taken to resolve the conflict of CBD and TRIPs with regard to the provisions of protection of medicinal diversity?
3. What are the various administrative measures adopted by the authorities/ state in the North Eastern Region to protect the medicinal diversity and to what extent they are handling the issues of biopiracy in the North Eastern Region?

### **1.10. RESEARCH METHODOLOGY**

The entire research is doctrinal. The primary and secondary resources have been examined. The primary sources like various laws, court judgements, Act, Rules, Order, by-laws, international instruments, were analysed. The research is based on analysis of the existing national and international legal instruments for the protection of medicinal biodiversity. A

comprehensive study of secondary data like various articles published online and offline, national and international journals, reports, news items, books on the issue and research papers concerned to the topic have been taken into consideration. The research is descriptive and analytical in nature and library based.

## CHAPTER TWO

### PROBLEMS RELATING TO PROTECTION OF MEDICINAL BIODIVERSITY AND RIGHTS OF INDIGENOUS PEOPLES IN NORTH EASTERN REGION OF INDIA

#### 2.1. INTRODUCTION

Biodiversity includes all species, flora and fauna, wildlife habitat, and bioresources found in forests and wildlife. It is very important to conserve biodiversity as it in turn helps in preservation of all species, the enhancement of wildlife habitat, sustainable use of forest and wildlife resources.<sup>43</sup> Conservation and sustainable use of biodiversity is important for the development of the environment. There are various resources that have important medicinal properties and are preserved by indigenous peoples. Their knowledge about the properties and use of the medicinal resources are important for the protection and conservation of such resources. The plant genetic resources (hereafter referred to as PGRs) are in abundance and the indigenous peoples have conserved and used it sustainably. With IPRs and patents being subjected to biological resources would increase the danger of such resources being extinct and also lead to loss of rights of indigenous communities who have conserved and nurtured such for generations. Biodiversity protection and conservation strengthens food security and also helps in environmental management.<sup>44</sup>

India is one of the megadiverse nations and houses around 10% of the world's species. India's rich and unique biodiversity can be traced back to thousands of years. The biodiversity of India

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<sup>43</sup> Biodiversity, *available at*: <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Understanding-Conservation/Biodiversity> (last visited on March 26, 2020).

<sup>44</sup> Conservation of Biodiversity, *available at*: <https://vikaspedia.in/energy/environment/biodiversity-1/conservation-of-biodiversity> (last visited on March 27, 2020).

is an important part of the social and cultural practices.<sup>45</sup> According to the International Union for Conservation of Nature (hereafter referred to as IUCN) India is a megadiverse country and accounts for 2.4% of the world's land areas; there are more than 78% of recorded species of plants and animals.<sup>46</sup> And also include a wide variety of flora and fauna that are rare and endangered.

More than 1,500 plant species in India are endangered.<sup>47</sup> Plant biodiversity is an important resource and has provided humans with a sustainable ecosystem to meet requirements of food, clothing, shelter, nutrition and health. India is known for its rich heritage of plant, animal, and fish genetic resources as well as microorganisms, which constitute biodiversity. India is considered as a cradle of agricultural biodiversity and it constitute 17% of the world's population, only 4.0% of the world's area, and 40% of its water bodies, India is one of the world's 17 mega biodiversity countries, with 12 of the world's mega diversity centers, accounting for 7–8% of the world's recorded species. India is also considered as a major center for the domestication of crop plants.<sup>48</sup> Among the 34 biodiversity hotspots identified across the world which are largely superimposed over the phyto-geographical regions the Indian Gene Centre has three: The Western Himalayas, North-Eastern region, and Western Ghats. The Indian Gene Centre is divided into eight regions, including biodiversity-rich zones.<sup>49</sup> The Andaman and Nicobar Islands are rich treasure houses of agro-biodiversity and are connected

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<sup>45</sup> Summary on the Biodiversity in India, *available at*: <https://www.jagranjosh.com/general-knowledge/summary-on-the-biodiversity-in-india-1521716572-1> (last visited on March 27, 2020).

<sup>46</sup> *Id.*

<sup>47</sup> Indian Legislation to Biodiversity Conservation, *available at*: <http://aquafind.com/articles/IndianLegislation.php> (last visited on February 20, 2020).

<sup>48</sup> The Importance of Biodiversity to Food and Agricultural Systems across the Globe, *available at*: [https://www.worldfoodprize.org/index.cfm/88533/18098/the\\_importance\\_of\\_biodiversity\\_to\\_food\\_and\\_agricultural\\_systems\\_across\\_the\\_globe](https://www.worldfoodprize.org/index.cfm/88533/18098/the_importance_of_biodiversity_to_food_and_agricultural_systems_across_the_globe) (last visited on June 22, 2020).

<sup>49</sup> Rayappa Hanchinal et. at., Biodiversity Conservation in Medicinal Plants and Protection of Plant Varieties and Farmers' Rights Act, *available at*: [https://www.researchgate.net/publication/324576855\\_Biodiversity\\_Conservation\\_in\\_Medicinal\\_Plants\\_and\\_Protection\\_of\\_Plant\\_Varieties\\_and\\_Farmers%27\\_Rights\\_Act](https://www.researchgate.net/publication/324576855_Biodiversity_Conservation_in_Medicinal_Plants_and_Protection_of_Plant_Varieties_and_Farmers%27_Rights_Act) (last visited on 22 June, 2020).

with Indo-Burman, Indo-Malaysian, and Indo-Indonesian biodiversity.<sup>50</sup> “India is rich in biodiversity and includes vast amounts of animal species and has almost 6.5% of the world's fauna including more than 91,000 animal species, 1,230 bird species, various mammals, reptiles and amphibians”.<sup>51</sup>

India has rich medicinal and aromatic plants, and such plants have been used in developing countries for thousands of years for various purposes. Indigenous people have tried and tested the medicinal qualities of plants and developed or found out the use of such resources. Medicinal plants have been used in India since time immemorial, the use of such plants has been transmitted orally through generations to generations. The World Health Organization estimated that 70-80% of the population living in Africa, India and other developing countries still depend on traditional healthcare systems for primary healthcare.<sup>52</sup> The indigenous communities reside in the areas where biological resources are available. Medicinal plants and herbal medicines form an integral part of indigenous medicine system such as Ayurveda, Unani, Siddha etc. Such medicinal resources have a deep root with the people or communities and they have developed knowledge for the use of such medicinal resources. But, with biotechnological development the medicinal plants are being converted into high valued commodities.<sup>53</sup> The medicinal plants are regarded as the main source for medicines, seasonings, coloring and are used by the people for daily purposes. The use of various medicinal plants is known by the public and forms a part of their traditional knowledge.

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<sup>50</sup> Biodiversity of India, Biodiversity Hotspots of India, *available at*: <https://www.pmfias.com/biodiversity-hotspots-india/> (last visited on June 22, 2020).

<sup>51</sup> *Supra* note at 41.

<sup>52</sup> Traditional uses of medicinal plants used by Indigenous communities for veterinary practices at Bajaur Agency, Pakistan, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5789696/> (last visited on June 22, 2020).

<sup>53</sup> Ashish Kumar and Janesh A. C, “Medicinal and Aromatic Plants Biodiversity in India and Their Future Prospects: A Review”, Vol.IXIJUM10, 2016.



Traditional medicinal plants are valuable and they constitute a source of livelihood and food security for the large Indian population.<sup>54</sup> Many local communities cultivate plants and earn money by selling the same. Even when the medicinal plants constitute an important aspect for improving the living for the local communities, the medicinal habitat and ecosystem are undergoing tremendous pressure.<sup>55</sup> The huge demand for natural medicines, food supplements, cosmetics, herbal pesticides, pharmaceuticals and health products has led to alarming loss of plant biodiversity. The rich resources are depleting due to various reasons, firstly, the collectors are untrained and due to this there is no proper understanding of harvesting the raw materials, this in turn leads to loss of the available resources and secondly, the people are unaware about the importance of biological resources that are available to them.<sup>56</sup> Medicinal plants-based drug industries and enterprises make use of the available resources from the wild as such raw materials are cheap and believed to be of higher potency with no side effects.<sup>57</sup> Such resources are good raw materials for making drugs or other products for commercial purposes. Since, the resources are freely available and cheaper to be derived, it leads to misappropriation and misuse of such resources.

India has rich biological resources and is one of the megadiverse countries in the world, and there are specific states where biodiversity is concentrated in higher amounts. One of such regions includes the North Eastern Region of India.

North Eastern Region (hereafter referred to as NER) of India comprises eight states -Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The NER has a vast amount of natural resources, as it has 34% of the country's water resources and also has

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<sup>54</sup> Medicinal Plant Biodiversity in India: Harnessing Opportunities for Promoting Livelihood and Food Security, *available at*: [https://link.springer.com/chapter/10.1007/978-3-030-32463-6\\_7](https://link.springer.com/chapter/10.1007/978-3-030-32463-6_7) (last visited on May 29, 2020).

<sup>55</sup> *Id.*

<sup>56</sup> Globalization and sustainable exports of Indian medicinal and aromatic plants: A protection study, *available at*: <https://mpr.ub.uni-muenchen.de/28908/> (last visited on May 29,2020).

<sup>57</sup> *Id.*

huge potency for hydro power capacity.<sup>58</sup> The region has a wide diversity of zonation, viz., agro-climate zones, Alpine Zone, Temperate Zone, Subtropical Hill Zone, Sub-Tropical Plain Zone, Mild Tropical Humid Hill Zone and Mild Tropical Humid Plain Zone. The region is also the abode of approximately 225 out of a total 450 recorded tribes in the country. North Eastern Region of India is regarded as the geographical ‘gateway’ as the area is rich in flora and fauna and the region has unique and rich biodiversity.<sup>59</sup> The cultural and customary variations and differentiations play an important role in managing the issues related to biodiversity and also for the conservation of the available resources.<sup>60</sup> The 8 states in NER have a variable range of altitudinal and topographic variations and the availability of biological resources is governed by such variation.<sup>61</sup> The medicinal plants also vary due to variation of climatic zones. Northeast India is one of the “biodiversity hotspots” and has the richest reservoir of plant diversity in India which falls under the Himalaya and the Indo-Burma biodiversity, forming a unique biogeographic province harboring major biomes recognized in the world.<sup>62</sup> Kaziranga and Manas are identified as World heritage sites by UNESCO and are located in the Northeast Region.<sup>63</sup> This region is also well-known for the diverse culture of human races and is inhabited by a large number of tribes of various ethnic groups. These ethnic communities have vast

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<sup>58</sup> North-East, *available at*: [https://in.one.un.org/un-priority-areas-in-india/north-east/#\\_ftn1](https://in.one.un.org/un-priority-areas-in-india/north-east/#_ftn1) (last visited on August 21, 2020).

<sup>59</sup> Background paper on Biodiversity Significance of North East India, *available at*: BiodiversitySignificanceNEIndia\_WWF.pdf (last visited on August 21, 2020).

<sup>60</sup> Atul Kumar Gupta, et. al., “North-East Biodiversity and Sustainable Economic Development, Issues and Challenges”, (Concept Publishing Company Pvt. Ltd. 2014).

<sup>61</sup> Conservation and cultivation of threatened and high valued medicinal plants in North East India, *available at*: [https://academicjournals.org/article/article1380111097\\_Shankar%20and%20Rawat.pdf/%5D](https://academicjournals.org/article/article1380111097_Shankar%20and%20Rawat.pdf/%5D) (last visited on August 21, 2020).

<sup>62</sup> Report UNEP World Conservation Monitoring Centre, UK

<sup>63</sup> Unni B.G. et al., Natural Bioresources of North Eastern Region of India- Its Conservation and Proper Utilization, *available at*: <https://www.eurekaselect.com/129228/chapter/natural-bioresources-of-north-eastern-region-of-india> (last visited on August 12, 2021).

traditional knowledge and have practiced traditional healing since time immemorial.<sup>64</sup> As the NER has rich biodiversity, the conservation agencies of the world give priority to the region. The World-Wide Forest (hereafter referred to as WWF) has also recognised the importance of the rich biological resources found in NER and has identified the entire Eastern Himalayan as a priority Global 200 Ecoregion, similarly the Conservation International has increased the Eastern Himalayan Hotspot and now includes countries of Bhutan, China, Myanmar along with eight states of North East. More than 850 orient bird species are found in NER of India.<sup>65</sup> The Eastern Himalaya and the Assam plains have been regarded as area with huge endemic birds.<sup>66</sup> The Indian Council of Agricultural Research (hereafter referred to as ICAR) has identified NER as a center of rice germplasm while the National Bureau of Plant Genetic Resources hereafter referred to as NBPGR), has regarded the region as important for its rich wild relatives of crop plants<sup>67</sup>. The region is known for its rich medicinal plants and rare and endangered species.<sup>68</sup> Out of India's 1300 species of orchids, the northeast region hosts about 800 species.<sup>69</sup> The Northeast region of India has vast biological richness as compared to other parts of India. India has huge medicinal resources and the resources are associated with traditional knowledge. The plants have some genetic resources that can be used to treat various diseases or illnesses. The rich traditional knowledge has been a part of India, and it includes various methods and means to have a healthy life and to treat themselves from diseases using herbal medicine that are made from various parts of the medicinal plants. There is no universal

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<sup>64</sup> Medicinal Plants in Northeast India, *available at*: <https://www.thenortheastwindow.com/2016/11/medicinal-plants-in-northeast-india/> (last visited on September 18, 2020).

<sup>65</sup> Biodiversity Significance of North East India, *available at*: [https://www.researchgate.net/publication/272362960\\_Biodiversity\\_Significance\\_of\\_North\\_East\\_India](https://www.researchgate.net/publication/272362960_Biodiversity_Significance_of_North_East_India) (last visited on September 26, 2020).

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at 61.

<sup>68</sup> *Id.* at 61.

<sup>69</sup> Perspectives of Forest Biodiversity Conservation in Northeast India, *available at*: <https://www.hilarispublisher.com/open-access/perspectives-of-forest-biodiversity-conservation-in-northeast-india-2376-0214-1000157.pdf> (last visited on September 26, 2020).

definition of traditional knowledge but various organizations and experts have made attempts to define the same. The common definition of traditional knowledge is that such knowledge is century old and are used, developed and preserved by indigenous communities or tribal communities<sup>70</sup> and such knowledge has been transmitted either in written or in oral form.<sup>71</sup>

As NER has vast biological diversity, it harbors a huge variety of species of flowering plants available in India.<sup>72</sup> The raw material produced or the unprocessed medicinal plant parts are being traded to various markets of Delhi, West Bengal, Bihar and various other states. Apart from this the raw materials are highly in demand at international markets which has often led to illegal trade of certain medicinal plants and animals.<sup>73</sup>

The medicinal resources that are found in NER of India are indigenous and not known to many. It has been used by the indigenous people from time immemorial and is a part of the tradition and culture of the people living there. The traditional knowledge of the indigenous peoples is based on the use of such medicinal resources. Many efforts have been made to protect the medicinal biodiversity that is present in NER of India. The available medicinal resources are the part of traditional health care systems and such resources are used by the indigenous peoples to treat themselves and their livestock. Various reports show that the vast medicinal plants of NER have been used by local people since time immemorial to treat various diseases like stomach related problems and cases of malaria, gynecological disorder and other issues that are faced during child birth and child care are dealt with by the use of such medicines.<sup>74</sup>

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<sup>70</sup> Medicinal Plants and their protection as Traditional Knowledge: A Study of the Legal Framework with special Reference to Cooch Behar district West Bengal, *available at*: [https://ir.nbu.ac.in/bitstream/123456789/1450/6/06\\_introduction.pdf](https://ir.nbu.ac.in/bitstream/123456789/1450/6/06_introduction.pdf) (last visited on December 2, 2020).

<sup>71</sup> Traditional Medicinal Plants: A source of Phyto therapeutic Modality in Resource-Constrained Health Care Settings, *available at*: <https://journals.sagepub.com/doi/full/10.1177/2156587212460241> (last visited on December 1, 2021).

<sup>72</sup> M K Sarma, Biodiversity significance of therapeutically potential plant species indigenous to North East India, *available at*: <https://www.alliedacademies.org/proceedings/biodiversity-significance-of-therapeutically-potential-plant-species-indigenous-to-north-east-india-6214.html> (last visited on May 14, 2021).

<sup>73</sup> *Supra* note at 65.

<sup>74</sup> *Supra* note at 68.

The tribal/indigenous communities have a long history with the plants and its use for medicinal purposes. In ancient times man were totally dependent on plants for day to day need of medicaments. Indian and Chinese medicines greatly relied on plants and still use plant resources for various purposes. The use and knowledge of ancestors was a mystery but with development it has become science now. The medicinal resources found around us have various uses and with few experiments it could result in development of various drugs. There are a number of plants that are used on a daily basis as seasoning or condiments, which not only add flavors to food but also have various medicinal properties.<sup>75</sup> Plants and animals provide people with food and medicine. “Almost 40% of all prescriptions written today include compounds from the natural compounds found in different species. Biodiversity is the very foundation for all Earth’s essential goods and services”.<sup>76</sup>

There is a need for proper protection and conservation of biodiversity because with various technological advancements like colonization, agriculture, mining, transports and other human activities the rich biological resources are disappearing from the region. Apart from this natural hazard like floods and landslides has also added to the loss of biodiversity.<sup>77</sup> Tribal peoples have bare minimum day to day needs. As they live in close contact with nature, they have incalculable social-religious relations with their land. Their culture, traditions and practices are different from the other people living in the society. Each state has their own peculiarities.<sup>78</sup> Biodiversity cannot be owned by an individual, it exists for all human beings. They must understand that they too are a part of it and must use it for the benefit of everyone.

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<sup>75</sup> The Importance of Biodiversity to Food and Agricultural Systems across the Globe, *available at*: [https://www.worldfoodprize.org/index.cfm/88533/18098/the\\_importance\\_of\\_biodiversity\\_to\\_food\\_and\\_agricultural\\_systems\\_across\\_the\\_globe](https://www.worldfoodprize.org/index.cfm/88533/18098/the_importance_of_biodiversity_to_food_and_agricultural_systems_across_the_globe) (last visited on June 22, 2020).

<sup>76</sup> Biodiversity in North East India and Their Conservation, *available at*: [https://www.researchgate.net/publication/282007847\\_BIODIVERSITY\\_IN\\_NORTH\\_EAST\\_INDIA\\_AND\\_THEIR\\_CONSERVATION](https://www.researchgate.net/publication/282007847_BIODIVERSITY_IN_NORTH_EAST_INDIA_AND_THEIR_CONSERVATION) (last visited on September 26, 2020).

<sup>77</sup> Biodiversity Conservation-Challenges for the Future, *available at*: <https://www.eurekaselect.com/129228/chapter/natural-bioresources-of-north-eastern-region-of-india---its-conservation-and-proper-utilizatio> (last visited on September 18, 2020).

<sup>78</sup> Birichi K. Medhi et. at., “Tribes of North-East India: Issues and Challenges”, (Omsons Publications 2009).

The rich biodiversity of the North East Region is facing various issues, like illegal cutting down of forest, smuggling of endangered varieties of species, the practices of jhuming, lack of awareness and failure on the part of forest officials to protect the medicinal resources etc. The North Eastern Region of India has rich and diverse cultural traditions associated with use of medicinal plants. Most of the people depend upon herbal medicinal practices and hold huge traditional knowledge. Most of the herbal medicines used by rural people including tribal people have not been documented which has led to issues like biopiracy and loss of resources.<sup>79</sup>

**TABLE 1: NUMBER OF PLANTS USED IN DIFFERENT INDIAN TRADITIONAL SYSTEMS OF MEDICINES**

| Traditional medicinal system | No. plant species used |
|------------------------------|------------------------|
| Folk-tradition               | 4500                   |
| Ayurveda                     | 2000                   |
| Siddha                       | 1300                   |
| Unani                        | 1000                   |
| Homeopathy                   | 800                    |
| Tibetan                      | 500                    |
| Modern                       | 200                    |

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<sup>79</sup> *Supra* note at 68.

The table provides the information regarding the importance of biological resources in different Indian Traditional systems of medicines. The use of the plant species in traditional medicines cannot be overlooked and such use must be acknowledged and recognized.

## **2.2. MEDICINAL BIODIVERSITY AND INDIGENOUS PEOPLES**

Medicinal biodiversity and indigenous peoples are dependent in many ways. The biological resources that are found in various parts of India are an integral part of indigenous people's knowledge.<sup>80</sup> India has vast medicinal resources and the conservation of such resources are done by the indigenous communities. They have lived in close contact with nature and hence, have vast knowledge on preservation and conservation of the resources.<sup>81</sup> Biological diversity includes all species of plants, animals and microorganisms available in the ecosystem.<sup>82</sup> India is considered as one of the mega bio-diverse countries of the world, and includes a huge variety of biological resources.<sup>83</sup> The resources are rich in medicinal properties and are used for numerous medicinal purposes. There exists a huge demand for such resources at national and international markets. But, it is very important to note that the plants with medicinal resources are associated with the traditional knowledge of the indigenous peoples living in various parts of India. The traditional knowledge associated with biological resources is required to be protected as it is an important component of biological resources which is developed and used by the indigenous communities.<sup>84</sup>

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<sup>80</sup> Biological Diversity and Traditional Knowledge, *available at:* [http://nbaindia.org/uploaded/docs/traditionalknowledge\\_190707.pdf](http://nbaindia.org/uploaded/docs/traditionalknowledge_190707.pdf) (last visited on April 23, 2020).

<sup>81</sup> Traditional Knowledge and the Convention on Biological Diversity, *available at:* <https://www.cbd.int/traditional/intro.shtml> (last visited on April 23, 2021).

<sup>82</sup> Medicinal Plants and their protection as traditional knowledge: A study of the legal framework with special reference to Cooch Behar district of West Bengal, *available at:* [https://ir.nbu.ac.in/bitstream/123456789/1450/6/06\\_introduction.pdf](https://ir.nbu.ac.in/bitstream/123456789/1450/6/06_introduction.pdf) (last visited on April 19, 2021).

<sup>83</sup> The Role of Ethnic and Indigenous People of India and their culture in the Conservation of Biodiversity, *available at:* <https://www.fao.org/3/xii/0186-a1.htm> (last visited on April 18, 2021).

<sup>84</sup> *Supra* note at 76.

India is home to a large population of indigenous peoples, and has signed many declarations and conventions related to indigenous people's rights and protection. In India officially, no section of population is considered as 'indigenous peoples', as generally used in the United Nation. However, the sections of people falling within the administrative category of Scheduled Tribes (hereafter referred to as STs) are considered as indigenous peoples in India. In India the STs inhabit about 15-20% of the land areas.<sup>85</sup> STs cannot be defined in a distinct way as a homogenous social-cultural category, nor is it possible to arrive at a clear anthropological definition of a 'tribal' in terms of ethnicity, race, language, modes of livelihood or social forms. "The tribal communities are divided into Veddis, similar to the Australian aborigines; Palea mongoloid Austro-Asiatic from the northeast; the Greco-Indians who spread across Gujarat, Rajasthan and Pakistan from Central Asia and the Negrito group of the Andaman Islands-the Great Andamanese, the Onge, the Jarawa and the Sentinelese".<sup>86</sup>

There are more than 200 indigenous peoples in the Northeast. The Boro, Khasi, Jantia, Naga, Garo, Tripiri, Mikir, Apatani, Boro, Khasi, Kuki, Karbi etc., belong to the Mongoloid stock and speak languages of the Tibeto-Burman language groups and the Mon Khmer. The Adi, Aka, Apatani, Dafla, Gallong, Khamti, Monpa, Nocte, Sherdukpen, Singpho, Tangsa, Wancho, etc. of Arunachal Pradesh and the Garo of Meghalaya are of Tibeto-Burman stock while the Khasi of Meghalaya belong to the Mon Khmer group. In the southern region, the Irula, Paniya, Adiya, Sholaga, Kurumba etc. belong to the proto-Australoid racial stock speaking dialects of the Dravidian family. Apart from these there are other STs in various states of India.<sup>87</sup>

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<sup>85</sup> Introduction, Traditional Knowledge and the Convention on Biological Diversity, *available at*: <https://www.cbd.int/traditional/intro.shtml> (last visited on April 19, 2021).

<sup>86</sup> C.R. Bijoy, Shankar Gopalakrishnan et, at, "India and the Rights of Indigenous Peoples", 13,(Pact (AIPP) Foundation, 2010).

<sup>87</sup> There are various Scheduled Tribes in the States of Uttar Pradesh, Himachal Pradesh, West Bengal, Arunachal Pradesh, Sikkim, Nagaland, Manipur and Mizoram



In India the Constitution provides special provision related to Scheduled Tribes.<sup>88</sup> They are awarded certain constitutional privileges, protection and benefits, as they are considered historically backward. Article 342 clause 1<sup>89</sup> provides a provision related to identification of the Scheduled Tribes. There are no specific criteria that has been developed for the purpose, but the Scheduled Tribes are identified on the basis of the following characteristics, the Scheduled Tribes are tribes who have primitive traits, with distinctive culture, and they live in isolation, they are also regarded to be of shy nature and have less or zero contact with the other people of society.<sup>90</sup> The indigenous peoples have depended upon the biological resources of their areas since time immemorial. As mentioned earlier the biological resources found in NER are unique and most of the resources are either endangered or extinct. With development and commercialization, most of the multinational companies are targeting the biological resources of that area based on traditional knowledge of indigenous communities for developing new drugs or other products.<sup>91</sup> This has in many ways hampered the rights of indigenous as well as the availability of the biological resources of NER. Most of the time the resources having medicinal properties are collected without the permission of the indigenous peoples and if such resources lead to development of any type of products, they sell it and the benefit sharing provision laid down under the CBD is never taken into consideration. The main aim of this chapter is to highlight the problems that the medicinal resources available in NER are facing along with the infringement of rights of the indigenous communities living there.<sup>92</sup>

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<sup>88</sup> The Constitution of India, 1950, Art. 366 (25)

<sup>89</sup> The Constitution of India, 1950, Art. 342.

<sup>90</sup> Scheduled Tribes in India-Definition, Criteria, and Full List, *available at*: <https://www.clearias.com/scheduled-tribes-in-india/> (last visited on December 2, 2020).

<sup>91</sup> State of the World's Indigenous Peoples, *available at*: [https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP\\_web.pdf](https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP_web.pdf) (last visited on December 2, 2020).

<sup>92</sup> The United Nations Declaration on the Rights of Indigenous Peoples, *available at*: <https://www.ohchr.org/documents/issues/ipeoples/undripmanualforhris.pdf> (last visited on December 5, 2020).

## **2.3. PROBLEMS RELATING TO PROTECTION OF MEDICINAL BIODIVERSITY AND RIGHTS OF INDIGENOUS PEOPLES IN NORTH EASTERN REGION OF INDIA**

The NER of India are mountainous areas, hence prone to landslides which results in soil erosion and seismic activities and anthropogenic disturbances. Together with the natural causes, human related activities have led to loss of biodiversity. There are many issues that have led to derogation of biological resources.<sup>93</sup> Various issues have been discussed in the following paragraphs.

### **2.3.1. No recognition of Indigenous Peoples rights over the biological resources**

Indigenous peoples around the world strive to be in synergy with nature as they depend mostly upon the available natural resources.<sup>94</sup> The indigenous communities not only use the resources but also try to conserve such resources as they understand the value of the resources and its need for the future generation. Such resources form an important part of their knowledge and they have developed such use after various trials and errors. In many states the diversity, cultures and traditions of these peoples are not recognised and they even considered as secondary citizens due to which most of the time their rights are easily violated. There are many instances when the fulfillment of capital-intensive markets has made these populations forced to leave their natural habitats and made them experience extreme violence and abuse that are often done by the state. The violence upon indigenous communities is categorized into three types by John Galtung<sup>95</sup>, firstly, physical, second cultural and third is structural one. The indigenous communities all around the world are mostly subjected to structural violence, which

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<sup>93</sup> S. Chatterjee, *Biodiversity Conservation issues of Northeast India*, 10JASTOR (2008).

<sup>94</sup> Binalakshmi Nepam, *Indigenous Women of Northeast India at the Forefront of a Strong Non-Violent Peace Movement*, ISBN 978-0-692-88605-2

<sup>95</sup> Johan Galtung is a Norwegian sociologist and the founding editor of Journal of Peace Research and is considered as the founder of 'peace studies.

is imposed by the social structure and social institutions who deprive the basic human rights of the communities.<sup>96</sup>

As, their rights are not recognised they have been and are still facing immense discrimination in the forms of racism, inadequate participation in public life, the illegal use of their lands and cultural violence. Most of the developing countries are rich in biodiversity and such countries are also inhabited by indigenous communities but due to weak provincial administrative structures there are many cases where the right of such communities over the use of the resources are infringed or it can be said that their rights as communities are never recognised and protected.<sup>97</sup>

The North East part of India is rich in natural resources and has been at the center of a prolonged armed conflict which is intensified due to the influx of small arms, drugs and weapons in the region. Along with this, the rich resources that form the part of the traditional knowledge are often misused and misappropriated by the bio pirates. In India the term indigenous communities are not used, like different countries they are defined by different terms.<sup>98</sup> There are about 67.7 million people in India who are referred to as Scheduled Tribe and are regarded as ‘Adivasi’ which literally means Indigenous People or original inhabitants’.<sup>99</sup> The term ‘Scheduled Tribe’ does not have the same meaning as the term “Adivasi.” The term Scheduled Tribe under the Indian Constitution is used to refer to people who are disadvantaged and backward and who are provided very protection and privileges.<sup>100</sup> The state provides privileges

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<sup>96</sup> Johan Galtung, “Violence, Peace and Peace Research,” *03 Journal of Peace Research* 6, 167-191. (1969).

<sup>97</sup> State of the World’s Indigenous Peoples, *available at*: [https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP\\_web.pdf](https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP_web.pdf) (last visited on December 2, 2020).

<sup>98</sup> Traditional Knowledge of Medicinal Plants in Tribes of Tripura in Northeast, India, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5471463/> (last visited on February 22, 2021).

<sup>99</sup> J.J. Roy, “Adivasi: A Contentious Term to denote Tribes as Indigenous Peoples of India”, *Mainstream*, July 25, 2009, *available at*: <https://www.mainstreamweekly.net/article1537.html> (last visited on February 23, 2021).

<sup>100</sup> *Id.*

to these Scheduled Tribes under Schedule V and VI of the constitution. They are provided certain special rights as they are considered backward as compared to other peoples of the society. Since they are protected and given certain privileges under the Indian constitution we can say that they are the indigenous communities of India.<sup>101</sup>

It is very necessary that for providing protection of indigenous peoples and their knowledge that the State in which they reside has acknowledged them and their rights over their traditional knowledge and practices. But not all countries have expressly recognised their collective rights over the use of the resources or the knowledge that is associated with the use of such resources.<sup>102</sup>

There are more than 427 tribal communities who reside in different parts of NER of India. They have distinct cultures, traditions, customs and use their own languages. They have built their own traditional knowledge that is very old and mostly based on the rich bio-resources available in the region. They have conserved, preserved such knowledge and the resources that are associated with the knowledge since time immemorial.<sup>103</sup> The knowledge that they have developed is not used by an individual only, as they have developed it collectively, they have equal rights and hence they use it freely. Their rights over such resources must be acknowledged and protected. But, due to globalization, privatization and new biotechnological inventions the existing traditional knowledge based on plants and animals have become a useful tool to the researchers that they have been misusing recently.<sup>104</sup> The researchers or companies, avail the knowledge and the use of various resources and start inventing new

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<sup>101</sup> *Id.* at 93.

<sup>102</sup> Documenting Traditional Knowledge – A Toolkit, *available at*: [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_1049.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1049.pdf)(last visited on February 23, 2021).

<sup>103</sup> A tribal Situation in North East India, *available at*: [https://www.researchgate.net/publication/288970895\\_Tribal\\_Situation\\_in\\_North\\_East\\_India](https://www.researchgate.net/publication/288970895_Tribal_Situation_in_North_East_India) (last visited on February 20, 2021).

<sup>104</sup> Bioresources protection in North East India, *available at*: [https://www.lyonia.org/articles/latha\\_rangan/article\\_511/pdf/articleBody.pdf](https://www.lyonia.org/articles/latha_rangan/article_511/pdf/articleBody.pdf) (last visited on February 16, 2021).

products, this leads to loss of rights of indigenous communities. Indigenous peoples are one of the vulnerable groups living in any society. They have been living in close contact with nature and have played a major role in conservation and sustainable use of the resources that are available in the forest. They have developed their medicines, food and other useful things with the help of resources that are available to them. No one can deny their efforts and sacrifices that they have put in to conserve the endangered resources.<sup>105</sup> Their knowledge based on the resources are of great importance and hence, many pharmaceutical companies, researchers have shifted their interest on the Traditional knowledge of the indigenous peoples. As they have vast knowledge about the use of the biological resources and have been using to treat themselves for various diseases, the big pharmaceutical companies try to learn such knowledge and apply some process to it and develop new products to claim patent rights over them. This way the rights of the indigenous peoples are infringed, firstly their approval or permission is not availed by the researchers or the pharmaceutical companies and later on after the patent is granted the benefit sharing provision is also not followed<sup>106</sup>. This happens because their rights over the use of such resources or the knowledge associated with the resources are not recognised. With no recognition of their rights over the use or development in the use of such resources makes them lose their rights over the use of such resources. Most of the international conventions and declarations have tried to highlight the importance of traditional knowledge of the indigenous communities but yet a proper legislation has not been framed. With their rights being recognised they can earn some economic benefits.<sup>107</sup> Their rights must be acknowledged as they have used such resources from ancient times, and after much trial and

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<sup>105</sup> Challenges and Opportunities for Indigenous Peoples 'Sustainability, available at: <https://www.un.org/development/desa/dspd/2021/04/indigenous-peoples-sustainability/> (last visited on February 17, 2021).

<sup>106</sup> Historical Perspective of Traditional Indigenous Medical Practices: The Current Renaissance and Conservation of Herbal Resources, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4020364/> (last visited on February 17, 2021).

<sup>107</sup> Minority Rights: International Standards and Guidance for Implementation, *available at*: [https://www.ohchr.org/documents/publications/minorityrights\\_en.pdf](https://www.ohchr.org/documents/publications/minorityrights_en.pdf) (last visited on February 23, 2021).

error they have understood the use of such resources. Only by making some scientific changes the researcher or pharmaceutical companies must not be granted monopoly over the products or process with the utilization of the resources or knowledge. There are many incidents when the resources available in NER have been traded or used for utilization without the prior approval of the communities and later the product gets patent.<sup>108</sup>

The traditional knowledge of indigenous or tribal communities are under serious threat, such knowledge is being misappropriated and neglected deliberately through national and international policy respectively. The main problem is the rights of the traditional holders are not recognised and only the knowledge created in laboratories is acknowledged.<sup>109</sup> There is an urgent need to acknowledge the rights of traditional knowledge holders, because it will safeguard their rights over such use and also help in securing some economic benefits to them.

### **2.3.2. No documentation of Indigenous people's knowledge**

Indigenous people and local communities all around the globe have developed vast traditional knowledge and it is very essential and important to them. Most of the traditional knowledge that is followed in the region is either too old or only in oral form. There is a lack of documentation which has led to numerous problems. As most of the knowledge is orally transmitted the criteria for prior art cannot be fulfilled because there is no document that could provide the proof of prior art. Therefore, documentation of traditional knowledge is considered as a way through which the social, cultural and economic interest of the indigenous and local communities can be protected.<sup>110</sup> No documentation of such knowledge has led to loss of traditional knowledge that has been followed by indigenous peoples since ages. Only if the

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<sup>108</sup> Biopiracy Imitations Not Innovations, *available at*:  
<https://biopirateria.org/download/documentos/libros/2007/07-3%20Biopiracy%20Imitations%20not%20Innovations.pdf> (last visited on May 21, 2021).

<sup>109</sup> *Id.*

<sup>110</sup> *Supra* note at 96.

knowledge is documented, then it will be recognised, organised and registered so as to provide a proof for prior art.<sup>111</sup> Documentation also must be made only after getting prior approval of the indigenous communities. The indigenous peoples must have the rights to make decisions related to the management and control of the database and also on how to process such information once TK is documented.<sup>112</sup> Documentation must also be done in a proper manner and it must clearly identify the owner of such a database, apart from this the law must also recognise who exercises rights over the contents of the database. Documentation is not easy and it can still be misused but if such data is protected through copyright laws or under special database legislation, as developed by the European Union which is sui generis database protection that exists in the European Union only.<sup>113</sup>

In India the provision for People Biodiversity Register (hereafter referred to as PBR) is laid down under the Biodiversity Rule, 2004 and is one of the excellent steps that could help in providing protection to the Traditional Knowledge of the people. The BMC are required to maintain a PBR that would include information about the available plant species with medicinal properties along with the information about the traditional knowledge and the name of knowledge holders. The main aim of the PBR is to provide protection to the available resources and also in a way acknowledge the rights of traditional knowledge holders. But, most of the states still lack in maintaining the registers properly. The registers in many places are at an initial stage and not completed. The language being different also causes problems, as the knowledge is held by the older peoples they mostly use their own language and hence it becomes very difficult to translate the same. Documentation can provide two-fold benefit firstly, it proves that it is prior art and secondly even if such knowledge or resources are used it can be a good medium through which the community rights can be recognised and the

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<sup>111</sup> *Id.*

<sup>112</sup> *Id.* at 96.

<sup>113</sup> Under the EU Database Protection Directive (European Directive 96/9/EC of March 11, 1996).

equitable sharing of benefits can also be exercised. In this way the traditional knowledge of the people as well as their economic rights can be protected.<sup>114</sup>

### **2.3.3. Community Rights not recognised**

As read in the preceding pages how the rights of the communities are being infringed, even with the equitable benefit sharing provision under the Biological Diversity Act, they have been facing various issues. The main problem arises as to the protection of rights, as mentioned earlier the community rights are not recognised by any legislation in India.<sup>115</sup> The Indigenous or tribal communities live in a close knit and in close contact with nature. Their daily lives include working together, sharing the produce with themselves, similarly the traditional knowledge is based on the group effort and an individual cannot be regarded as the sole holder of such knowledge. They share whatever they make and there exists no concept of individual or private rights. The concept of private rights hampers their rights as the community's rights are not recognised.<sup>116</sup>

Hence, it is very difficult to prove their rights when they claim the rights over the use of resources which is a part of their traditional knowledge. As the community rights are not recognised, there exists a question as to who will receive the benefits? and what should be the criteria for calling a group a community? The answer to these questions is not yet answered, and in this way the rights of the communities are being infringed. The benefit sharing provisions are not executed in the proper manner which has led to the infringement of their

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<sup>114</sup> Mansour Alosaimi, "The role of knowledge management approaches for enhancing and supporting education, *available at*: <https://tel.archives-ouvertes.fr/tel-01816021/document> (last visited on February 23, 2021).

<sup>115</sup> Nagoya Protocol on Access to genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity, *available at*: <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf> (last visited on February 23, 2021).

<sup>116</sup> Indigenous People's Traditional Knowledge Must be Preserved, Valued Globally, Speakers Stress as Permanent Forum Opens Annual Session, *available at*: <https://www.un.org/press/en/2019/hr5431.doc.htm> (last visited on February 24, 2021).



rights and knowledge. The traditional knowledge or indigenous knowledge are the collective wealth of their experience and constitute their intellectual property which needs to be recognised and protected.<sup>117</sup> Such collective rights have no concept of private ownership, as it is acquired and developed through community efforts and they use, share and hold it collectively. There is no concept of individual ownership and they use the knowledge for the benefits of the community. The customary laws of the community govern the wide variety of knowledge, and they depend upon the concept of custodianship rather than ownership.<sup>118</sup> Hence, the states must recognise and acknowledge the collective rights of the communities through a specific provision or a legislation, only then the rights of the communities can be protected.

#### **2.3.4. The issue related to biopiracy**

Biopiracy in simple terms means misuse and misappropriation of biological resources or theft of indigenous and local knowledge without the prior permission and with no sharing of benefits after the utilization of such resources or knowledge. Biopiracy can also be defined as misappropriation of the resources or unauthorized use of the resources with the aim of gaining monopoly over the use of such resources. Through this exclusive right over the biological resources of one country is availed by an individual, institution or companies of other countries which leads to denial of benefit sharing rights to the country of origin.<sup>119</sup> Biopiracy is a process through which new plant varieties and living organisms are introduced. It also leads to creation of new pharmaceutical products and privatization of traditional knowledge without prior

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<sup>117</sup> Traditional Knowledge and Intellectual Property- Background Brief, *available at*: [https://www.wipo.int/pressroom/en/briefs/tk\\_ip.html](https://www.wipo.int/pressroom/en/briefs/tk_ip.html) (last visited on February 24, 2021).

<sup>118</sup> Biopiracy Imitations Not Innovations, *available at*: <https://biopirateria.org/download/documentos/libros/2007/07-3%20Biopiracy%20Imitations%20not%20Innovations.pdf> (last visited on May 21, 2021).

<sup>119</sup> L.C. De, et.al.", 3 Biodiversity, Conservation and Bio-Piracy of Genetic Resources in India", *De Gruyter Open Poland*, (2015).

approval, and many times there is no information related to the origin of the resources and no sharing of benefits after utilization.<sup>120</sup>

The issue related to biopiracy is not new to India, there are various cases of biopiracy of Traditional Knowledge from India, like the Basmati, Neem, Haldi cases etc., and it is essential to discuss a few cases of biopiracy that our country faced. The turmeric case is an important case. Turmeric is used in India in every household, we have been using turmeric for various purposes and we have knowledge about the use and its properties.<sup>121</sup> But in 1995, the United States Patent and Trademark Office (hereafter referred to as USPTO) awarded a patent (#5,401,504) for the use of turmeric in wound healing to two non-resident Indians belonging to the University of Mississippi Medical Centre. The patent office failed to get information about the prior art as turmeric had been used to treat wounds and such properties of turmeric were already mentioned in ayurvedic texts too. Hence, India's industrial research organization, Council for Scientific and Industrial Research (CSIR), opposed the patent. The research center stated that the wound healing properties of turmeric were known and could not be treated as novel inventions. To support their challenge, they provided proofs of traditional knowledge that included old Sanskrit scripts and a Journal<sup>122</sup> that had published the medicinal properties of turmeric.<sup>123</sup> One of the important requirements for claiming patent is that the invention must be novel, but in this case the invention could not be regarded as novel as it was

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<sup>120</sup> Biodiversity, Conservation and Bio-piracy of Genetic Resources in India, *available at*: [https://www.researchgate.net/publication/336604616\\_3\\_Biodiversity\\_Conservation\\_and\\_Biopiracy\\_of\\_Genetic\\_Resources\\_in\\_India](https://www.researchgate.net/publication/336604616_3_Biodiversity_Conservation_and_Biopiracy_of_Genetic_Resources_in_India) (last visited on May 17, 2021).

<sup>121</sup> India: Traditional Knowledge and Patent Issues: An Overview of Turmeric, Basmati, Neem Cases, *available at*: <https://www.mondaq.com/india/patent/586384/traditional-knowledge-and-patent-issues-an-overview-of-turmeric-basmati-neem-cases> (last visited on January 5, 2021).

<sup>122</sup> The Journal of the Indian Medical Association in 1953.

<sup>123</sup> Abduction of Turmeric provokes India's wrath, *available at*: <http://www.goodnewsindia.com/Pages/content/traditions/turmeric.html> (last visited on 4 January 2021).

already known to public hence, the USPTO annulled the patent in August 1997<sup>124</sup>. But, even after this the cases didn't stop and there were issues related to Basmati, Neem etc.

Basmati rice has been one of the important rice varieties that India produces. It has a long history with the farmers of India. But, the Texas based Rice Tec Inc. was granted a patent (#5663484) by the USPTO on Basmati rice lines and grains in 1997. It was only when an appeal was filed in the Supreme Court by the Research Foundation of Science, Technology and Ecology (hereafter referred to as RFSTE), India and co., and the Government of India was compelled to file a request for re-examination against the aforementioned patent at USPTO. As the granting of patent over such criteria was hampering the financial and trade interests of basmati rice exporters in the country.<sup>125</sup>

The Basmati rice breeds were only produced in the indo-gangetic plains of India and Pakistan and such rice had a unique genetic code that could only be produced in India and Pakistan. Later on, the 15 out of 20 claims made by the US Ricetec was dropped. This was a great achievement for Indian cultivators who could have been deprived tremendous financial rewards due to the patent.<sup>126</sup>

There are many cases that India has faced and most of the times revoked the patent claims too but this itself doesn't seem justifiable because due to it the country of origin or the people who have developed, conserved the resources are being deprived of the rights and the revocation is expensive and takes time.

The neem biopiracy case is one of the classic cases of biopiracy by transnational companies. The efficacy of the neem tree was observed by the US timber importer Robert Lrason in 1971.

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<sup>124</sup>Patenting and licensing in genetic testing: ethical, legal and social issues, *available at*: <https://www.nature.com/articles/ejhg200837> (last visited October 26, 2021).

<sup>125</sup> The story of the basmati rice patent battle, *available at*: <https://sciencebusiness.net/news/72228/The-story-of-the-basmati-rice-patent-battle> (last visited on October 22, 2021).

<sup>126</sup> Iti Chauhan, India-Victim of Biopiracy, *available at*: [https://www.researchgate.net/publication/260366291\\_India-\\_Victim\\_of\\_Biopiracy](https://www.researchgate.net/publication/260366291_India-_Victim_of_Biopiracy) (last visited on October 22, 2021).

Various tests were conducted upon a pesticidal neem extract called Margosan-O which was imported from India to Wisconsin. Later the W R Grace and Corporation purchased the patent<sup>127</sup> and they developed various other products-based neem solutions. In June 1992 the United States Patent Office issued Patent No.5,124,349 to W.R. Grace and Co.<sup>128</sup> In 1994, the Environmental Protection Agency registered Neemix, Grace's stabilized azadirachtin solution, for use on food crops. After the patent was granted, various steps were taken to revoke the same. In September 1995, a coalition of 225 agricultural, scientific, and trade groups as well as over 100, 000 individual Indian farmers, led by the organization the Foundation on Economic Trends, filed a legal petition with the U.S. Patent and Trademark office.<sup>129</sup>

Though the patent claims were revoked, the time, money and effort involved was huge. For instance, in the neem case though the patent was revoked but it nearly took more than 10 years. This is unfair to the country who has been using it since ages, just because the properties, the use of the plant species is not documented. The patent claims were granted to something that was already known to the public.<sup>130</sup> A few successful cases of revocation of patents, does not mean that there has been a stop on biopiracy. The issue of biopiracy is rampant and is leading to misappropriation of resources and deprivation of the rights of the country. The stealing of biological resources and associated Traditional Knowledge can lead to food insecurity and in turn affect the livelihood of indigenous peoples. India has huge medicinal resources and cases of biopiracy are frequent.

India has faced and is facing the bio piracy issues. The NER of India is no exception, as the region is rich in medicinal resources, the misappropriation is rampant. The North East region

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<sup>127</sup> The neem tree-a case history of biopiracy, *available at*: <https://twm.my/title/pir-ch.htm> (last visited on May 20, 2021).

<sup>128</sup> John F. Burns, Tradition in India vs. a Patent in the United States, N.Y. Times, 1995, p. 269.

<sup>129</sup> Emily Marden, "The Neem Tree Patent: International Conflict over the Commodification of Life", *Int'l & Comp.L.Rev* , 31-32 (1999).

<sup>130</sup> Combating biopiracy- the legal way, *available at*: <http://indiatogether.org/biopiracy-environment> (last visited on 9 January, 2021).

of India as mentioned earlier is rich in biodiversity. The biological resources found in the region have been used for various purposes. Due to the lack of awareness among the people these issues have failed to grab the limelight. With growing biopiracy issues it is very important to adopt measures that can control it. There is no doubt that this region has faced and is still facing the issues of biopiracy, there are various reports that provide evidence to the same.<sup>131</sup>

In a news article by the 'Hindustan Times' it was reported that the rich resources of Nagaland have been attacked by the bio-pirates. The report also highlighted the cases of bio-piracy especially on rare medicinal herbs, orchids and numerous species. For smuggling these species, the pharmaceuticals engage the middle men who further make the local people collect such resources at less money. This also makes the local people a part of the crime. According to a "Naga environment NGO" biopiracy was something that was rampant and they weren't aware about it. According to the report, two local species of ginseng known as panax ginseng and pseudo ginseng were completely wiped out from Nagaland due to its high demand in the international market. Other plants included taxus bacata and cephalu taxus that are used in Western Countries for making medicine to cure cancer.<sup>132</sup>

Smuggling is being carried out from the wilds of NER and various medicinal plants like Paris cordifolia, are being misappropriated. The plant has been used as homoeopathic medicines to cure headaches, chronic respiratory and bronchial infections but now it is being collected to produce high valued drugs.<sup>133</sup>

It was reported in 2004 in the first ever State of Environment Report, Assam that more than 22 varieties of orchids along with other plant resources were affected by bio-piracy. There exists

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<sup>131</sup> Biopiracy related to Traditional Knowledge and Patenting Issues, *available at*: <https://www.hindustantimes.com/india/bio-piracy-rampant-in-nagaland/story-iiym3bA2uV0y6k4Rjn7tO.html> (last visited on October 21, 2021).

<sup>132</sup>India News, Bio-piracy rampant in Nagaland, *available at*: <https://www.hindustantimes.com/india/bio-piracy-rampant-in-nagaland/story-iiym3bA2uV0y6k4Rjn7tO.html> (last visited on October 21, 2021).

<sup>133</sup>*Id.*

no report as to how much of those orchids were being collected and smuggled outside the state. The lack on the part of the local peoples are also a cause of increasing biopiracy. The local people trade the rich biological resources in the hope of some money, they fail to understand the value of the resources that they are trading. The companies earn millions illegally at the cost of the valuable genetic resources.<sup>134</sup> The plants that are smuggled or traded secretly have medicinal properties. Most of the plants have huge medicinal properties and every part can be utilised. The plant species like “Actinodaphne angustifloia nees, Aristolichia cathcartii HK fext and Asparagus Recemus willd”<sup>135</sup> are collected and smuggled for medicinal purposes. The entire plant of coptis teeta wall can be used for medicinal purposes and the biopiracy of this plant is rampant in the state of Arunachal Pradesh.<sup>136</sup>

Similarly, a notice was issued by the Tourism Department of Sikkim, alerting the state against two bio-pirates from foreign countries. The notice provided that two persons from the United Kingdom and Hawaii were involved in bio piracy related to the flora from Sikkim. It was reported that T.D. Atkinson and John Mood<sup>137</sup> entered Sikkim as a tourist and took away some flowers from protected areas without permission. It was found out that Atkinson was selling those species of flowers collected from the wildlife protected and reserve forest of Sikkim online. Bio-piracy is common in States of North East India as the states are rich in biological resources.<sup>138</sup> The main cause and increase in bio-piracy is due to lack of awareness among the local people. Many tourists visit the states to collect rare and endemic plants for some research

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<sup>134</sup> *Id.* at 126.

<sup>135</sup> “Piracy a major threat to N.E. Biodiversity” *The Hindustan Times*, December 15, 2006, *available at*: <https://web.williams.edu/AnthSoc/native/assam.htm> (last visited on 5 January 2021).

<sup>136</sup> *Id.* at 129.

<sup>137</sup> Bio-piracy alert against two foreigners issued by Sikkim Tourism Department, *available at*: <https://www.thenortheasttoday.com/current-affairs/states/bio-piracy-alert-against-two-foreigners-issued-by-sikkim-tourism-department> (last visited on 9 January 2021).

<sup>138</sup> *Id.*

without the approval of the Government of India.<sup>139</sup> They then take away the resources and after research develop new products that are later on awarded patents. This is bio-piracy as the resources are collected from a state without approval or permission of the people of the state and later on after the patent is granted the people lose the rights to use such resources freely. In Sikkim, various instances of biopiracy have taken place, but not made known to people. Tourism is one of the main causes of increase in biopiracy in states like Sikkim. People enter the states as a tourist, do their research, collect samples and return to their place. It is difficult to see what they are carrying or taking back, once they cross borders then it becomes difficult to catch them and no penalty can be awarded if they cross the borders. One of such incidents happened, when a tourist from America came to Yuksom a place located in West Sikkim and when returning back took away the seeds of “dalle khorsani” which is found in Sikkim, later he went to his home planted the same and posted a picture in social media as “American Dalle”. This is also biopiracy but nothing could be done to that person. One of the reasons for such increase in biopiracy is due to lack of awareness among the people using the resources. Most of the time the people share their knowledge unknowingly or in good faith. Hence, many times they end up sharing the knowledge that they have been using to the researchers, who then misuse the same.<sup>140</sup>

There are many people who are still dependent on the indigenous medicinal knowledge and such resources that are found in the region. The resources that they depend upon are important for medicinal as well as for food and agriculture uses. Such knowledge is most of the time transmitted orally and has been passed on from ancestors. The people have conserved as well as developed the traditional knowledge and it forms a part of their traditions, customs and

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<sup>139</sup> *Id* at 137.

<sup>140</sup> Numa Limbu, *Protection of Traditional Knowledge from Biopiracy: A Study with Special Reference to Sikkim*, (2018) (Unpublished MPhil Thesis, Sikkim University).

lifestyle.<sup>141</sup> Most of the plant species are used for traditional purposes in India. Biopiracy has a negative impact on the economy and food security of farmers especially of the developing countries. India is one of the biodiversity rich countries and due to this has been the victim of piracy related to medicinal plants and agriculture-based business corporations.<sup>142</sup> The bio resources available in India are of great economic relevance and with globalization, consumerism there arises a great threat over them. The biodiversity found in any country cannot be valued in terms of money. In a meeting held at Cancun, Mexico the Ministry of Environment and Forest<sup>143</sup> stated that, the overall value of the biodiversity ecosystem amounts to about US \$ 2.9 trillion for the entire world.<sup>144</sup> According to Ancient Science of Life, there are about 4635 ethnic communities in India. They have their traditional practices and they have been using the same from ancient times. Even when the resources are used and if a patent is claimed over it, the indigenous communities cannot challenge such patents. Most of them do not have information and the expense to challenge such patents is a huge amount of money which they cannot manage, and which in turn leads to loss of their economic rights.

The State of Assam Science Technology and Environment Council along with the Environment Protection Training and Research Institute of Hyderabad described the state of environment by applying the internationally recognised method for latest ‘pressures state impact response’ (hereafter referred to as PSIR). The main objective for preparing the report was to spread

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<sup>141</sup> Bhavika Sharma et. al., “India’s Fight Against Agriculture and Medicinal Plants’ Biopiracy: Its Implications on Food Security, Traditional Rights and Knowledge Degradation”, *IJAEB* 882 (2018). *available at:* [https://www.researchgate.net/publication/330903124\\_India%27s\\_Fight\\_Against\\_Agricultural\\_and\\_Medicinal\\_Plants%27\\_Biopiracy\\_Its\\_Implications\\_on\\_Food\\_Security\\_Traditional\\_Rights\\_and\\_Knowledge\\_Degradation](https://www.researchgate.net/publication/330903124_India%27s_Fight_Against_Agricultural_and_Medicinal_Plants%27_Biopiracy_Its_Implications_on_Food_Security_Traditional_Rights_and_Knowledge_Degradation) (last visited on 7 February 2021).

<sup>142</sup> *Id.*

<sup>143</sup> Ministry of Environment and Forests, Govt. of India. 2002. Biodiversity and Bioprospecting for Sustainable Development, India’s presentation for the Ministerial Meeting of Mega-biodiversity Countries. Cancun, Mexico.

<sup>144</sup> Sayan Bhattacharya, Bioprospecting, Biopiracy and Food Security in India: The Emerging Side of Neoliberalism, *available at:* [https://www.researchgate.net/publication/279742706\\_Bioprospecting\\_Biopiracy\\_and\\_Food\\_Security\\_in\\_India\\_The\\_Emerging\\_Sides\\_of\\_Neoliberalism](https://www.researchgate.net/publication/279742706_Bioprospecting_Biopiracy_and_Food_Security_in_India_The_Emerging_Sides_of_Neoliberalism) (last visited on 7 February 2021).



awareness among the people, the government and various stakeholders and agencies so they understand different threats and issues that the environment is facing. The reports included the issues related to administration and ecological set-up, similarly problems related to land, water, forest, minerals were also highlighted together with issues of disaster management, biodiversity, agriculture purposes. Various issues like the problems related to industries, energy, transports, tourism and health were also discussed. It was an effort made by the Assam Science Technology and Environment Council (hereafter referred to as ASTEC) to encourage the participation of people along with the government to protect the environment and plan out measures for a safe and clean environment.<sup>145</sup> People must understand the importance of the environment and play an active role in protecting it. The bio pirates are carrying out the piracy in a very skillful manner and due to this most of the plants and animals' species have become extinct. The plant species that are famous at the international markets are being targeted by the bio-pirates.<sup>146</sup> The Zee News also reported that pharmaceutical companies have become a part of this biopiracy with the aid of the local people who smuggle the resources for them at a lower cost. With the greed of earning some money the local peoples fall prey to the ideas of the big pharmaceutical companies, and researchers.<sup>147</sup>

### **2.3.5. Problems associated with Bioprospecting**

In simple terms 'bioprospecting' means development of new products with the use of biodiversity associated with traditional knowledge, with the aim of using biological resources sustainably and to recognise or acknowledge the traditional knowledge of indigenous

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<sup>145</sup> *Supra* note at 129.

<sup>146</sup> "Biopiracy: eating into Assam's forest", *Zee News*, July 04, 2003, available at: [https://zeenews.india.com/home/biopiracy-eating-into-assams-forests\\_109106.html](https://zeenews.india.com/home/biopiracy-eating-into-assams-forests_109106.html) (last visited on 7 January 2021).

<sup>147</sup> *Id.*

communities.<sup>148</sup> The main purpose of better implementation of bioprospecting is to see that the benefits that are the result of use of resources are shared equally among the indigenous communities who have developed their traditional knowledge based on such biological resources.

Bioprospecting though suggests good things and recognises the rights of the communities, but it's very difficult to make sure that the communities or the local peoples will get the benefits. One e.g. that highlights the problems of bioprospecting is the instance of the Kani Tribe of Kerala, India. The Kani Tribes had lived in the Agasthya hills in Southern Kerala near Thiruvananthapuram from ancient times and they were known for their stamina and fit health. With this curiosity in mind the botanist took a tour along with two kani tribes to find out the reason for their health. Hence, in October 1987, some scientists started a survey in the region, the project was called All India Coordinated Research Project on Ethno-biology (hereafter referred to as AICRPE), coordinated by the Indian Government.<sup>149</sup> During the tour the two local Kani people ate some fruits that were locally available. According to them the plant and its use was a sacred knowledge that was imparted to them by their forefathers. They explained to them that by eating the fruit they would not feel hungry and it would make them feel energetic all day long.<sup>150</sup> The plant was known as Arogyapacha, *Trichopus zeylanicus* in Latin. The scientist then took the fruits, and different parts of the plant and started research. Many experiments were conducted on the plant for anti- fatigue, hepato-proactive, immune-modulatory, anti-stress activities etc.<sup>151</sup> While performing various experiments due to lack of botanical identification of the plant, the plant was sent to different places and it was found that

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<sup>148</sup> Jubilee Purkayastha, Emerging Trends in Sustainable Bioprospecting of Bioresources, *available at*: [https://link.springer.com/chapter/10.1007/978-981-10-0620-3\\_1](https://link.springer.com/chapter/10.1007/978-981-10-0620-3_1) (last visited on 18 February, 2021).

<sup>149</sup> Unnikrishnan Payyappallimana, From Rio to Reality: A Case Study of Bioprospecting Local Health Knowledge in Kani Tribal Community of Kerala, India, *available at*: <http://amma.socsci.uva.nl/theses/payyappallimana.pdf> (last visited on 18 February, 2021)

<sup>150</sup> *Id.*

<sup>151</sup> *Supra* note at 26 at 3.

the plants were found in other places too, but the knowledge of anti-fatigue properties was first reported by Kanis. Later the medicine that was developed with the use of arogyapacha was known as 'Jeevani' -the life giver. The TBGRI had promised the community sharing of benefits once any drug was developed. Later, the research technology was transferred to Coimbatore based Ayurvedic Company known as the Arya Vaidya Pharmacy (hereafter referred to as AVP). As per the Council for Scientific and Industrial Research (hereafter referred to as CSIR) guidelines, the Tropical Botanical Garden and Research Institute (hereafter referred to as TBGRI) made an agreement with the AVP on 10<sup>th</sup> November, 1995. The Agreement was made and the AVP offered Rs.10 lakhs (1 million) as royalty together with 2 % of the profit from sale of the drug the agreement was signed for the period of seven years. The community was to receive five lakhs and the remaining five lakhs was used by TBGRI for their research purposes. The scientist who developed the medicine was eligible for 40% of the license fee; the scientists did not claim anything.

Since this case was controversial from the beginning there were many issues that came along the way. Firstly, there was a problem with supplying raw materials and the benefit sharing was not that great. As the research institute was criticized for selling the technology to the private company earlier, the new communist party<sup>152</sup> opposed the signing of Memorandum of Understanding between TBFRI and AVP for the technology transfer in 1995. With huge success and international market potentiality it was believed that the license fee of the product would easily reach millions.<sup>153</sup>

The problem increased more because the supply of raw material became less, it was considered endemic and could not be collected freely and easily. Later, the Kani tribes were encouraged to cultivate the same near their homes, but the result was different. The fruits didn't give the

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<sup>152</sup> Communist Party of India-Marxist (CPI-M)

<sup>153</sup> *Supra* note at 143.

same properties that they used to give. There is a lesson that India should learn from this case, firstly, though they developed the drug by utilizing the plant, but later the plant lost its true properties. Secondly, the Tribe who knew the knowledge and had been utilizing the same lost the resources and didn't not get the benefits that they had to get. It is very difficult to answer the question as to whether bioprospecting is good or bad, because the end result is what matters, and losing the biological resources forever, with no equal benefit sharing is not favorable.

Bioprospecting as many suggest is a good way to avoid bio-piracy but there are no good examples which support the same. As discussed above, the instances with the Kani Tribe, the result of bioprospecting was the loss of valuable resources and also the benefits that they availed were not sufficient. There are very few examples in India where bioprospecting has produced good results. One of the Indian famous environmentalists Vandana Shiva in her article '*Bioprospecting as Sophisticated biopiracy*' provides a clear insight about the idea of bioprospecting and also mentions that bioprospecting is nothing but an excuse that is made to avoid the problematical connection between the developed and developing countries and biological associated indigenous knowledge of local communities. Condemning the ideas, she states that bioprospecting is nothing but an illegal method applied by the multinational corporations and pharmaceutical companies through which the indigenous knowledge related to biodiversity is patented.<sup>154</sup>

The other issue that the Indian Bioprospecting approval process faces is the requirement to enter into a full-fledged Access and Benefit Sharing agreement between the National Biodiversity Authority and bio prospector. As, it includes benefit sharing conditions for utilization of biological resources and associated knowledge. The main question as to what

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<sup>154</sup> Vandana Shiva-Bioprospecting as Sophisticated Biopiracy, *available at*: <https://paulkelleyvieth.com/thesis/Vandana-shiva-bioprospecting-as-sophisticated-biopiracy/> (last visited on June 3, 2021).

should be the quantum of benefit, is decided by the Expert Committee.<sup>155</sup> The meetings of the Committee are not decided and they meet once every few months for about two days for only about 15-20 minutes and discuss the ABS application. As they meet only for about 15 to 20 minutes their discussions are limited. They fail to understand the subject of the application and most of the time they are unaware about the nature of the industry or research sector that proposes bioprospecting. There are various issues related to bioprospecting, one of them is the failure to determine what would constitute equitable sharing of benefits.<sup>156</sup> The time period is very less and most of the time they fail to decide what would be the fair and equal amount of benefits. The requirement of consultation with the local communities is not done, instead the committee asks the bio prospectors to explain to them the nature and goals of the bioprospecting, where the most important thing is to ask the benefit claimants to discuss the terms for the ABS agreement. There are times when the expert committee does not have information regarding the bioprospecting application and at such times the Committee cannot determine the equitable sharing of benefits and anything done cannot be accurate. Since there are huge amounts of bioprospecting applications, the expert committee has standardized the thumb-rule for determining benefits. The main reason for the Biodiversity Act, 2002 is the utilization of bioresources and benefit sharing in mutually agreed terms.<sup>157</sup> The mutual understanding is missing as most of the times there exists no understandings between the Expert Committee and the bio prospectors regarding the quantity of benefit sharing which in turn has led to violation of the aim of the BD Act.<sup>158</sup> The local communities from whose territory such resources are being used or whose traditional knowledge is being applied must

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<sup>155</sup> A committee of experts from various fields including law, science, economics, business development etc. who are tasked with reviewing an ABS application and then determining what would constitute fair and equitable benefit sharing.

<sup>156</sup> Beyond the thumb rule approach: regulatory innovations for bioprospecting in India, *available at*: <http://docs.manupatra.in/newslines/articles/Upload/7CE923C2-3FC1-43D8-ABF6-BDAEBE56DF78.pdf> (last visited on May 24, 2021).

<sup>157</sup> The Biological Diversity Act 2002, s.21 (1)

<sup>158</sup> *Supra* note 150

have a say in ABS. The thumb-rule of the Expert committee gives no rights for those peoples on access to their resources, they have no say on such negotiations. The thumb-rule of the expert committee has fixed requirements and the bio prospectors seeking agreement for application related to an intellectual property rights are required to pay a royalty of 2.0 to 5.0% of the price of the product.<sup>159</sup> Similarly, the Expert Committee lays down the requirement for payment of 5% of the fee if the bio prospectors propose to provide license to either process, product or innovation that is based on an Indian biological resource or associated knowledge. It also provides that an additional 5% of royalty amount must be received annually from the assignee or licensee as benefit sharing.<sup>160</sup> Many support the thumb-rule policy but it cannot be denied that such rule has resulted in insufficient discussions with the different sectors engaging the bioprospecting and BMCs. There are many who favor bioprospecting but since the agreement doesn't consider the consent of the local communities this agreement cannot be considered a valid one. Similarly, there is a risk that if the permission is granted and if the important species are removed or if it triggers the biodiversity extinction through overharvesting the resources, as in the case of Kani tribe.

Apart from the bioprospecting activities that are not so beneficial for the communities as a whole there are certain exceptions to it. In the article<sup>161</sup> relating to the bioprospecting of medicinal plants in Nanda Devi Biosphere, information is provided on the topic and the positive impact of bioprospecting is mentioned as it has improved socio-economic conditions of the residing community and awareness for medicinal plant conservation in their natural habitat.<sup>162</sup>

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<sup>159</sup> *Id.*

<sup>160</sup> *Id.* at 152.

<sup>161</sup> R.K. Maikhuri et. at., "Bioprospecting of medicinal plants in Nanda Devi Biosphere Reserve: Linking conservation with livelihood", 113 *JSTOR* 577, (2017).

<sup>162</sup> *Id.*

### 2.3.6. Illegal extraction and Illegal Trade in NER

Illegal extraction and over exploitation of forest products and poaching is another issue that the biodiversity of NER is facing. NER of India is surrounded by different countries and it shares its boundaries with them. This sharing of boundaries has led to various issues of illegal extraction, smuggling of forest resources. NER has become a hub of illegal trade of many endangered and endemic wild flora and fauna.<sup>163</sup> One of the medicinal plant species i.e. *Taxcus Baccata* has been over exploited and smuggled heavily from western Arunachal Pradesh. This plant species can be used to treat breast cancer and other diseases. With huge demand at the international market the plant was smuggled and sold outside. There is evidence that shows that poaching of faunal species, elephant and one horned rhinoceros was common at Northeast state of Assam, Arunachal Pradesh, Nagaland and Meghalaya. According to a report available in 2004, the population of Tigers in Assam fell from 354 in 2001-2002 from 458 in 1997. In Arunachal Pradesh the Tiger population decreased from 180 to 61, and in Nagaland and Meghalaya from 47 to 23 respectively. Even One horned rhino was poached from Kaziranga National Park in Assam. Even when protection was provided to the species, incidents as such needed serious attention.<sup>164</sup>

The poachers trade animals and plant species of medicinal value to other countries like China and other East Asian countries.<sup>165</sup> As the region is rich in numerous biological resources with medicinal properties there is a high demand from the international markets. Most of the animal parts are smuggled easily to places like China, Myanmar and other Southeast Asian nations through Northeast India. Most of the animal parts are used for medicinal purposes for instance

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<sup>163</sup> Chittaranjan Baruah et. at., "Emerging trends in wildlife trade in Northeast India: a serious concern", 2A/JCB86-87 (2013).

<sup>164</sup> S. Chatterjee et. at., "A Preliminary survey of *Taxus Baccata* var *wallichiana* in Tawang district of Arunachal Pradesh". *The Indian Forester* Vol. 123, pp. 746-754 (1997).

<sup>165</sup> *Supra* note at 157.

Tokay geckos locally known as ‘keko xaap’ are illegally caught and traded outside the states because it is believed that the meat of geckos can be used to treat AIDS, cancer, diabetes, asthma etc. *Nardostachys jatamansi* (*jatamansi*) is a high-altitude, high-valued plant found in various parts of India like Nepal, Sikkim and Madhya Pradesh. The rhizomes of this plant are collected and illegally traded for extraction of a pale-yellow volatile oil and drug for numerous ailments and an ingredient in perfumes and is highly valued.<sup>166</sup>

Similarly, there are numerous animals that are illegally hunted and traded for its medicinal values. Illegal trade of wildlife is an organized crime that is very frequent in NER of India. This not only makes the animals endangered but hampers the biodiversity of a place. High demand of endemic and endangered animals and plants for medicinal purposes has encouraged illegal trade.<sup>167</sup> Illegal wildlife trade is a significant crime and more attention should be provided to put a control over it. It has numerous impacts like deterioration of environment, loss of biodiversity, national security impacts and lastly, impact on the health of human beings<sup>168</sup>

The loss of biodiversity is a very grave concern as it is very difficult to bring back what becomes extinct. More than 20% of the forest reserve has been lost due to extensive illegal logging.<sup>169</sup> It was reported that huge species have decreased due to illegal logging, especially the rare hornbill species found in the Eastern Himalayan forest of Arunachal Pradesh.<sup>170</sup> Under the Wildlife Protection Act, the specified hornbill species are provided with the highest degree of protection, yet they are smuggled leading to loss of such species. This wildlife trade has

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<sup>166</sup> Jason Holley and Kiran Cherla, *The Medicinal Plants Sector in India*, (International Development Research Centre, 1998).

<sup>167</sup> *Supra* note at 163.

<sup>168</sup> S Upadhyaya, “Wildlife Trafficking for trade in Northeast India: A case study”, 8IJCAR19891-19893 (2019).

<sup>169</sup> Sibi Arasu, Illegal logging ‘mafia’ stripping hornbill habitat in Northeast India, *available at*: <https://news.mongabay.com/2020/05/illegal-logging-mafia-stripping-hornbill-habitat-in-northeast-india/> (last visited on 16 February 2021).

<sup>170</sup> *Id.*



increased even when most of the cases are being highlighted in the newspaper. Most of the animal parts like rhino horns, tiger and leopard bones, pangolin skin and various reptiles like tokay gecko are used for making traditional medicines and hence in great demand. The other species that have been a victim of illegal trade are the endangered Hoolock Gibbons, Serows, Chinese Pangolins and Clouded Leopards, and are found in Tamenglong, Manipur. Due to rampant hunting and smuggling there has been a rapid decline in the available biodiversity. The birds and animals are not only smuggled outside the state, but also hunted for human consumption in local markets.<sup>171</sup>

One of the major causes of increasing wildlife trade is regarded as lack of sufficient manpower and effective facilities to catch the smugglers in the Northeast. The Wildlife Crime Control Bureau (hereafter referred to as WCCB) who are empowered with tasks to handle wildlife crime, has less workers.<sup>172</sup>

Most of the medicinal plants that are used by the local people of the NER are indigenous and not known to many. Such medicinal resources are used by the people to treat themselves from various diseases. They are the ones who use such resources and also conserve the same. As they have recognised the medicinal properties of the plant and developed such use after many trials and errors and later the pharmaceutical companies carry out photochemical science and research to develop new medicines from the same plants and claim for patent over the same.<sup>173</sup>

There is no doubt that if a lifesaving drug is developed by using the medicinal plants it could be a great achievement to the human kind but the main issue that arises are, the denial of benefit sharing that arise out of the utilisation of such resources that was used, conserved and are part

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<sup>171</sup> Galina and Daniel Macwan, *Illegal Wildlife Hunting and Trade in Tamenlong, Manipur*, available at: <https://www.conservationindia.org/gallery/illegal-wildlife-poaching-and-trade-in-tamenglong-manipur> (last visited on 20 February 2021).

<sup>172</sup> Sumir Sarkar, "Deadly game: Wildlife trade puts species at risk", *Deccan Herald*, August 04, 2019, available at: <https://www.deccanherald.com/specials/insight/deadly-game-wildlife-trade-puts-species-at-risk-751922.html> (last visited on 16 February 2021).

<sup>173</sup> Mrinmoy Sharma et. at., "Medicinal Plants of North-East Region of India: A small Review". *10IJCP11* (2018).

of the traditional knowledge of the indigenous peoples and the loss of their rights to use the same freely.

Other than plants and animals, many insects which possess medicinal properties can be exploited by human beings as most of the tribes of North east use insects as food and medicines.<sup>174</sup> There is no doubt that the traditional ethno-botanical knowledge held by the people of NER is creditable and such knowledge needs to be recognised as it can help in biotechnological advancement and in turn enhance the economic benefits of such people and it is also very necessary to see that such resources are used sustainably and conserved for future use too.

### **2.3.7. Conflict in the provision of International Instruments for protection of Medicinal Biodiversity**

The TRIPs Agreement and the Convention on Biological Diversity are important international instruments and there are hundreds of members of both the agreements. The ideas or objectives that they protect are different from each other, and is one of the main causes for the conflict between the two. The TRIPs agreement aims at providing monopoly to the inventor or creator whereas the CBD provides protection to the community rights over the use of biological resources.<sup>175</sup> The rights under TRIPs agreement are available to the persons or institutions and therefore they can get patent protection over a country's biological resources, if they meet the statutory requirements. This may affect the developing country to protect their resources within their sovereign power and their right to exploit or use their resources. The sovereign power to determine the access and benefit sharing arrangements of biological resources is affected when

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<sup>174</sup> Bioprospecting with reference to medicinal insects and tribes in India: an overview, *available at*: <http://indiaenvironmentportal.org.in/files/The%20Indian%20Forester%203.pdf> (last visited on May 30, 2021).

<sup>175</sup> Overview: the TRIPs Agreement, *available at*: [https://www.wto.org/english/tratop\\_e/trips\\_e/intel2\\_e.htm](https://www.wto.org/english/tratop_e/trips_e/intel2_e.htm) (last visited on March 23, 2021).

the IPR under the TRIPs is implemented.<sup>176</sup> Similarly, there is no provision under the TRIPs which requires the patent holder to share benefits after the use of such resources and developing or claiming patent after the use with the state or indigenous communities. In the absence of any provision the country of origin cannot take any action to protect its biodiversity or get any opportunity to enforce its benefit-sharing rights against the corporation/person who obtains the patent over a product obtained by the use of its biological resources. The Convention on Biological Diversity provides under Article 15, 16 and 19 provisions relating to prior informed consent and the requirement of benefit sharing that results from the use of resources and main focus must be provided to protect the biological resources and the benefit sharing is infringed.<sup>177</sup> Lastly, Article 27 of TRIPs does not specifically exclude discoveries from patent protection, and for availing patent invention it requires novelty, inventive steps and industrial application as mandatory criteria. Biotechnological development has led to the use of biological resources and traditional knowledge for many inventions.<sup>178</sup> This knowledge cannot be considered new as such knowledge is available in the public domain, known to all. Such knowledge is utilized by many scientists many times for their inventions. Also, Article 27.3(b) of TRIPs though not mandatory but directs the countries to provide patent protection on microorganisms, non-biological and microbiological processes leading to the probability of patenting of biological resources. If such biological resources are used, this may affect the economic rights of indigenous tribal people of that locality and their chance to earn out of their traditional knowledge further.<sup>179</sup>

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<sup>176</sup> *Id.*

<sup>177</sup> Traditional Knowledge and Intellectual Property- Background Brief, *available at:* [https://www.wipo.int/pressroom/en/briefs/tk\\_ip.html](https://www.wipo.int/pressroom/en/briefs/tk_ip.html) (last visited on April 7, 2021).

<sup>178</sup> TRIPs: Reviews, Article 27.3 (b) and related issues, Background and the current situation, *available at:* [https://www.wto.org/english/tratop\\_e/trips\\_e/art27\\_3b\\_background\\_e.htm](https://www.wto.org/english/tratop_e/trips_e/art27_3b_background_e.htm) (last visited on April 6, 2021).

<sup>179</sup> Standards concerning the availability scope and use of Intellectual Property Rights, *available at:* [https://www.wto.org/english/docs\\_e/legal\\_e/27-trips\\_04c\\_e.htm](https://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm) (last visited April 7, 2021).

### **2.3.8. Inadequacy of National Legislation for the protection of Medicinal Biodiversity**

There are many laws for the protection of forest, environment, biodiversity and rights of Tribal peoples in India. But there exists no specific provision or legislation that provides protection to the medicinal biodiversity and the rights of the indigenous communities. Various legislations like the Indian Forest Act, 1927, the Environment (Protection) Act, 1986, the Biological Diversity Act, 2002, the Patent Act, 1970 (Amended) 2005, the Geographical Indication (Registration and Protection) Act, 1999 and many more are inadequate, and the provisions that are laid down under such laws doesn't recognise the economic rights of indigenous peoples over the biological resources and their knowledge. The Traditional knowledge of the tribal or indigenous peoples are very precious to them and the researcher or pharmaceutical companies, utilize such knowledge to create or develop new drugs, and earn huge profits, but there must be a mechanism to see that the rights of the indigenous peoples get recognised so that they too can avail the economic benefits from such utilisation.<sup>180</sup>

The Wildlife Crime Control Bureau (hereafter referred to as WCCB) who are empowered with tasks to handle wildlife crime, has less workers. Wildlife crimes need to be restricted and stringent sanctions must be awarded to those who carry such activities but, it is difficult to check such a huge trade with less workers. The poachers are in huge numbers and carry guns, and without a strong force it is difficult to catch them. There are many instances when the forest officials are attacked as the poachers have better guns and are more in number.

The National Biodiversity Authority was set up in 2003 but till 2010-11 the authority had no official record when the authority had used section 18(4)<sup>181</sup> of the Biological Diversity Act.<sup>182</sup>

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<sup>180</sup> Legal framework environment and biodiversity laws- an Interactive application, *available at*: <http://indo-germanbiodiversity.com/pdf/publication/publication02-11-2017-1509605023.pdf> (last visited on April 7, 2021).

<sup>181</sup> The Biodiversity Act, 2002, s.18 (4).

<sup>182</sup> The section provides the NBA with the power to oppose the grant of any intellectual property (IP).

The audit report by CAG environment in the year 2010-2011 laid down that the NBA had no information relating to IPR that were granted on India's Traditional Knowledge outside India.<sup>183</sup> This shows how the legislations are farmed and various authorities established but the functions that are given aren't complied with effectively. The lack on the part of the authority to check such cases leads to biopiracy and misappropriation of the resources available in India. One of the main aims of the Biodiversity Act is to implement the Access and Benefit sharing provisions, but the main body that is the National Biodiversity Authority has failed to implement the same. For instance, when the bio prospectors apply for bioprospecting the National Biodiversity Authority establishes an Expert committee who has to decide the fair and equitable benefit sharing requirements. As they are experts in various fields it's believed that they would complete the function, but it has been found that the expert committee failed to decide and understand the nature of the research and the use. They mostly depend upon the thumb-rule and this leads to no negotiations which is the main requirement of the Act, and the benefit claimants are left out of the arrangements.<sup>184</sup> This leads to failure on the part of the authority to fulfill the provisions laid down under the Act and the Rules.

### **2.3.9. Conflict of provision of the Biodiversity Act and the Patent Act in India**

The conflict or contradictions between the CBD and TRIPs is the main reason for infringement of the rights of the indigenous peoples. The obligations of both the Conventions or Agreements are different from each other. On one hand CBD talks about protection of biological resources, benefit sharing and the rights of communities, and on the other hand TRIPs speaks about providing protection to an individual or granting exclusive monopoly rights. Similarly, the

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<sup>183</sup> Shalini Bhutani "The need to deal with biopiracy", *Deccan Herald*, September 06, 2012 available at: <https://www.deccanherald.com/content/276709/need-deal-biopiracy.html> (last visited on May 21, 2021).

<sup>184</sup> National Biodiversity Authority, Rules, available at: <http://nbaindia.org/content/17/20/1/rules.html> (last visited on April 8, 2021).

national legislation also continues to have a contradiction with each other. Especially with the Patent (Amendment) Act, 2005, the Act has completely become TRIPs compliant and gives no exemption of patents over food and health regions.<sup>185</sup>

India amended the Patent Act in 2005, certain changes had been made. The amended Act now includes all the spectrum of technology inclusive of food technology, drugs technology, chemicals technology, and microorganisms etc. Section 3(d) of the Act provides various changes to the existing patent provisions.<sup>186</sup> But traditional knowledge that is orally transmitted or followed are not considered as prior art; and due to this the Act fails to provide protection to the available traditional knowledge that are orally transmitted. Traditional Knowledge must be recognised and protected as its concept can be related to various areas like agriculture, scientific, technical, ecological and medicinal knowledge as well as knowledge related to use of biological resources.<sup>187</sup> Traditional knowledge includes all the knowledge, awareness or experience that has been developed and continued on from ancient time or practiced in a particular region by communities. TK are usually undocumented and inherited via word of mouth. But as the TK is orally transmitted the indigenous peoples are unable to prove their rights over the traditional knowledge or fail to provide evidence of prior art.

In 2006, it was reported in 'the Economic Times' that various developing countries including India, Brazil, China, Pakistan demanded for an establishment of a multilateral rule to put a control to the biopiracy issues. They submitted their proposal to the TRIPs Council at the WTO. These countries demanded for inclusion of a mandatory provision which provided that the

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<sup>185</sup> Access to genetic resources and protection of traditional knowledge in the territories of indigenous peoples, *available at*: <https://www.cbd.int/doc/articles/2002-/A-00390.pdf> (last visited on May 27, 2021).

<sup>186</sup> Indian Patents Act 1970, sec. 3(d), *available at*: <https://www.lexology.com/library/detail.aspx?g=3f92413f-107c-4886-aca7-24633a341e22> (last visited on May 29, 2021).

<sup>187</sup> India: Traditional Knowledge and scope for Patent Protection, *available at*: <https://www.mondaq.com/india/patent/668414/traditional-knowledge-and-scope-for-patent-protection> (last visited on May 29, 2021).

applicants must disclose the origin of the biological resources that are being patented in the TRIPs agreement.<sup>188</sup>

Since, there are many cases of bio-piracy by the developed countries over the traditional knowledge or bioresources of developing countries. The developing countries contended that bringing a uniformity between the TRIPs Agreement and the CBD was the only proper way to deal with the issues of biopiracy and wrong claims of patents. But, those petitions were rejected.<sup>189</sup>

### **2.3.10. NER Rules inadequate to provide protection to Medicinal Biodiversity**

The North Eastern Region of India is guided by the Biological Diversity Act of 2002. In compliance with Section 41 and Rule 22 of the Biological Diversity Act (2002)<sup>190</sup> and Rules (2004), the Biodiversity Management Committee is established. The most important function of the BMC's is to maintain the Peoples Biodiversity Registers. This is an important step to look after and protect the available resources in an area, but the works or the functions aren't followed by them. Many places the panchayats refuse to be a member of the committee and even if the committee is formed the villagers or people living around do not know about the committee that has been established. The requirement for maintaining a Biodiversity Peoples Register is necessary to provide protection to the available medicinal resources as well as the Traditional Knowledge of the communities, yet only few states have maintained the same.<sup>191</sup> It is one of the important ways in which documentation can be encouraged or improved but there is no proper PBR maintained. Sometimes it is very difficult to avail information from

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<sup>188</sup> Amiti Sen, "India leads drive to check bio-piracy", *The Economic Times*, July 15, 2006 available at: <https://economictimes.indiatimes.com/industry/healthcare/biotech/india-leads-drive-to-check-bio-piracy/articleshow/1754572.cms?from=mdr> (last visited on May 16, 2021).

<sup>189</sup> *Id.*

<sup>190</sup> The Biological Diversity Act, 2002. s. 41

<sup>191</sup> Sustainable Management of Natural Resources, available at: <https://ncert.nic.in/textbook/pdf/jesc116.pdf> (last visited on May 18, 2021).

the local communities as they aren't willing to share their traditional knowledge. Most of the older people in villages have certain information relating to the medicinal uses of plants but they aren't sure and don't want to share them. They are the last hope but they too refuse to share the information. This can only result in loss of traditional knowledge as no proper protection has still been guaranteed to it neither at international level nor at national level.<sup>192</sup>

Most of the people in the village area still don't know about the BMC and its function. The BMCs must strive to spread awareness among the peoples about the importance of the resources, about the issues of biopiracy and how they can gain some economic benefits through utilisation of resources or knowledge associated with particular resources. Most of the people having knowledge are either too old or speak only their own language so, the committee must take initiative to speak to them and document their knowledge and provide recognition to their knowledge. Trust must be gained from the people and the awareness programmes must be conducted by the BMC quarterly.<sup>193</sup>

#### **2.4. Other issues related to protection of medicinal biodiversity and rights of indigenous communities in NER**

Other than the above-mentioned issues there are some more threats to the biodiversity in NER of India. To begin with, due to lots of development activities the forest has been cut down which leads to deforestation and degradation of the resources. Due to this increasing human activities the biological resources have been lost and many plant and animal species have become endangered.<sup>194</sup> Most of the time the land that is used by the indigenous peoples are

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<sup>192</sup> Documenting Traditional Knowledge-A Toolkit, *available at*: [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_1049.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_1049.pdf) (last visited on May 23, 2021).

<sup>193</sup> Biodiversity Conservation and Livelihoods enhancement, *available at*: [https://www.researchgate.net/publication/341070113\\_Biodiversity\\_Conservation\\_and\\_Livelihoods\\_Enhancement\\_-\\_Report\\_by\\_Ecociate](https://www.researchgate.net/publication/341070113_Biodiversity_Conservation_and_Livelihoods_Enhancement_-_Report_by_Ecociate) (last visited on May 23, 2021).

<sup>194</sup> Sudipto Chatterjee, et. at., Background Paper on Biodiversity Significant of North East India for the study on Natural Resources, Water and Environment Nexus for Development and Growth in North Eastern India, *available at*: [http://trpervis.nic.in/test/doc\\_files/BiodiversitySignificanceNEIndia\\_WWF.pdf](http://trpervis.nic.in/test/doc_files/BiodiversitySignificanceNEIndia_WWF.pdf) (last visited on 8 February 2021).



taken away for development purposes, this way they lose their land as well as the resources that are found in that specific region.

Encroachment is one of the serious threats faced by the forests and it acts as a barrier in conservation of biodiversity. Most of the time the Reserved Forest areas are also encroached, but the issue remains in dark due to its relationship with politics. The lands of the tribal peoples of NER have been under attack from different sides. Firstly, the land alienation takes place in terms of transfer to the non-tribal, most of the time the lands belonging to the tribal peoples are transferred to the non-tribal. Secondly, immigrants to the lands, there are many instances where the tribal have protested against immigrants occupying their lands. Lastly, acquisition for development projects without recognizing community rights.<sup>195</sup> There are many instances when the law has been changed to allow alienation of tribal land. The main reason for reform into the Manipur Land Reforms and Land Revenue Act 1960 was seen by many as a desire to facilitate transfer of land belonging to tribal to the non-tribal. Apart from this land has been the reason for various conflicts in NER of India. Few examples of such conflicts among the communities in the NER are “Kuki-Naga conflict of the 1990s and the Meitei-Naga conflict of 2001”.<sup>196</sup> Tribal peoples and communities are different from the general population, as they have their ethnic origin, culture, languages and customs, the way they manage their lands or transfer or acquire are different, they follow their customary law for this purpose. Their customary laws are different from each other for e.g., the Angami of Nagaland and the Dimasa of Assam acknowledge both the individual ownership as well as community ownership but other customary laws like that of the Aka of Arunachal Pradesh have no concept of individual ownership.<sup>197</sup> Though they are diverse in nature, their customary laws are the center of the

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<sup>195</sup> Land, People and Politics: Contest over Tribal Land in Northeast India, *available at*: <https://www.nesrc.org/Publications/Land.pdf> (last visited on 15 February 2021).

<sup>196</sup> *Id.*

<sup>197</sup> *Id.* at 188.

community and such laws govern community as well as individual ownership. The law provided them the right to transfer the land and the owner of land could transfer the land only to specific persons. With implementation of State laws their customary laws were rejected and most of the times their rights over their lands were not recognised leading to infringement of their human rights. The tribal peoples are represented as a community and most of the laws for e.g. the Tripura Land Reforms and Land Revenue Act, 1960 do not recognise the community owned land and hence, the lands owned by the tribal cannot be registered. The individually owned registered lands are recognised, so this causes problems to the tribal peoples as this allows the lands to be encroached by immigrants and also makes it easy for the state to use their lands for development purposes without providing compensation to them.<sup>198</sup> The scenario has become the same as it was in the colonial period because the lands that belong to these communities are used for development programmes. Without proper protection of their rights over their land leads to loss of their livelihood, tradition, culture etc. They are tempted with various development policies which in turn leads to privatization which is against the concept of community. The indigenous peoples or communities have never existed without each other and hence it is very necessary that the concept of community right must be acknowledged.<sup>199</sup>

Even with the laws for protection of tribal rights over their lands the provision for protection has not been fulfilled.

Similarly, one of the issues that is being faced is threats to plant population and regeneration. With over use and over exploitation the specific medicinal plants have become endangered and are on the verge of extinction. Various medicinal plants such as “Homalomena aromatica (Scented Arum), Dipsacus inermis (Himalayan Teasel), Thalictum javanicum (Meadow-rue),

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<sup>198</sup> *Id.* at 188.

<sup>199</sup> Land Rights of Scheduled Tribes, *available at*: <https://pib.gov.in/Pressreleaseshare.aspx?PRID=1579747> (last visited on February 17, 2021).

Berberis aristata (Indian Barberry), Nardostachys jatamansi (Spikenard), Picrorhiza kurooa (Fig wort) etc<sup>200</sup> have medicinal properties and are traded by pharmaceutical sectors. The Pharmaceuticals companies and multinational corporations with the help of middlemen obtain medicinal plants at very low cost. The Middle men engage the local people to collect the medicinal resource and this has led to restriction of natural growth of such plants. As various parts of the plants are used to make different products, most of the time the seeds of the plants have no chance to propagate as during the extraction process the whole plants are uprooted. Hence, threatening the population of such plants.<sup>201</sup> The local people lack awareness about the importance of biodiversity, the issue of biopiracy and the provision of access and benefit sharing under bioprospecting. The lack of awareness among the population has also led to issues of biopiracy. In various parts of Sikkim where trekking is done, many guides collect rare plant species, or butterflies or birds at the demand of the tourist. Tourists most of the time are researchers and they come to a particular place at the right season of a plant blooming or when certain birds or butterflies appear. Their main motive is to research and find out the various properties of certain species, but the people of those areas or local people do not understand their motive and hence, supply them with various species.

## 2.5. CONCLUSION

The NER of India comprises Arunachal Pradesh, Assam, Manipur, Mizoram, Meghalaya, Nagaland, Sikkim and Tripura and all the states have unique biodiversity. As mentioned earlier, numerous plant species, animals and microorganisms are found in the region. The region, however, faces many problems which have hampered the rich biodiversity that is present in the

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<sup>200</sup> Making medicinal plant wealth work for Northeast India, *available at*: <https://www.teriin.org/article/making-medicinal-plant-wealth-work-northeast-india> (last visited on May 14, 2021).

<sup>201</sup> *Id.*

region. The North East Region of India is a mountainous region and apart from human activities there are various natural calamities that deteriorates the biodiversity causing loss of soil and genetic resources. Successive Indian forest surveys were conducted during the period of 2015, 2017 and 2019 and the survey stated the net deforestation of 628, 630 and 765 square kilometers in the North eastern region. Gradually, the decline is occurring and the dense forest has decreased up to 70% and is alarming. During 2001-2018, 75% of the total tree cover loss outside the recorded forest area in India occurred in the North Eastern Region<sup>202</sup>. The loss of forest covers can lead to loss of rich biological resources that are available in the region. Apart from this, biopiracy and illegal trade has caused huge damage to the resources as well as the rights of the communities who have been using the resources for their livelihood.

Biopiracy as well as bioprospecting has caused immense problems to the availability of resources, and without adequate international laws, standards, norms and monitoring mechanisms, the theft of indigenous and local knowledge will increase.<sup>203</sup> As there exist no international standards, many bioprospecting activities have failed to provide the 'fair and equitable' benefits. P Drahos in his report<sup>204</sup> suggested a treaty on Traditional Group Knowledge and Practice (hereafter referred to as TGKP).<sup>205</sup> According to him a treaty must be enforced focusing on TGKP, with strong coordination of national enforcement activities for the prevention of misappropriation of traditional knowledge through a Global Bio-Collecting

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<sup>202</sup> Draft EIA 2020: How it may impact North East, *available at*: <https://www.downtoearth.org.in/blog/environment/draft-eia-2020-how-it-may-impact-north-east-72742> (last visited on May 11, 2021).

<sup>203</sup> Shamana Afreen et al., Biopiracy and Protection of Traditional Knowledge: Intellectual Property Rights and Beyond, *available at*: [https://www.iimcal.ac.in/sites/all/files/pdfs/wps-629\\_1.pdf](https://www.iimcal.ac.in/sites/all/files/pdfs/wps-629_1.pdf) (last visited on May 11, 2021).

<sup>204</sup> P Drahos, 'Towards an International Framework for the Protection of Traditional Group Knowledge' (Report from UNCTAD-Commonwealth Secretariat Workshop on Elements of National Sui Generis Systems for the Preservation, Protection and Promotion of Traditional Knowledge, Innovations and Practices and Options for an International Framework, Geneva, 4-6 February 2004).

<sup>205</sup> *Id.*

Society.<sup>206</sup> There are many instances when the traditional knowledge holders do not have the idea about the outcome of biopiracy, bioprospecting and illegal trade. They are mostly one of the main links to such activities. As they are unaware about the causes they become a part of the crime and middle men use their knowledge to know about the resources and also collect the resources for illegal trade. They must be made aware about the situation and the reason and cause of such activities. Bio piracy needs to be regulated or restricted as it can result in extinction of endemic genotypes, genetic erosion and privatization of bio-resources of the country. Most of the developed countries have been using this as a tool to exploit the bioresources of developing countries. The emergence of monopolies over seeds and medicine through patents have become a major threat to farmers, livelihoods and public health.<sup>207</sup>

There are situations when the resources that have been used by the indigenous peoples have certain side effects to it, then the scientists who perform research remove such side effects with the help of modern techniques and develop new products by using the resources. There is no doubt that this can lead to the introduction of new drugs for treating disease but, the main criteria are that the knowledge of the indigenous people must be acknowledged and they must be given certain economic benefits. Hence, traditional medicine and modern science need each other to provide useful and safe innovation. A balance must be strived so that such side effects can be removed but also the knowledge of the indigenous communities over the use of such resources must be acknowledged. This way, the identity and the economic rights of the indigenous people can be protected.<sup>208</sup>

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<sup>206</sup> Daniel F. Robinson, *Biopiracy and the Innovations of Indigenous Peoples and Local Communities*, available at: <http://press-files.anu.edu.au/downloads/press/p154251/pdf/ch04.pdf> (last visited on May 17, 2021).

<sup>207</sup> Biodiversity, conservation and Bio-piracy of Genetic Resources in India, available at: [https://www.researchgate.net/publication/336604616\\_3\\_Biodiversity\\_Conservation\\_and\\_Bio-piracy\\_of\\_Genetic\\_Resources\\_in\\_India](https://www.researchgate.net/publication/336604616_3_Biodiversity_Conservation_and_Bio-piracy_of_Genetic_Resources_in_India) (last visited on May 17, 2021).

<sup>208</sup> Challenges and Opportunities for Indigenous Peoples' Sustainability, available at: <https://www.un.org/development/desa/dspd/2021/04/indigenous-peoples-sustainability/> (last visited on May 13, 2021).

Most of the resources are related to the traditional knowledge of the indigenous communities, but there is no documentation of the same. Many people still depend upon traditional medicine even if allopathic medicine is available to them, as such medicines are effective and have no side effects. This is true because during COVID-19,<sup>209</sup> people turned towards old traditional practices to improve their immunity. While the scientists were busy discovering the medicine, and with no proper medicine available many people started using the medicinal resources available to them. It is necessary that effective measures must be adopted for conservation and sustainable use of medicinal resources, and if such resources are lost or misused then it will lead them to extinction. Hence, it is important to provide in-situ or ex-situ conservation procedures to preserve and conserve the resources. Certain medicinal plants, though available near us, are not protected due to lack of knowledge. It is very necessary that traditional knowledge is documented and made available to people so that they protect the same. Most of the traditional knowledge is held by older people and they speak their own language, most of the world's Indigenous languages are considered to be endangered, meaning they are at a high risk of being replaced by dominant languages.<sup>210</sup> Hence, efforts should be made to protect the language and the knowledge of the indigenous peoples. Doing this can help in two ways: first, the language of a certain community can be protected and second, the knowledge of the traditional knowledge holder can also be protected.

The Energy and Resources Institute (TERI) North East Centre has been working on finding unexplored medicinal plants of the region and also keenly looking at the conservation aspects of the known plants. The main aim of doing so is to minimize pressure on the wild population of medicinal plants. Under a multi institutional project, the TERI-NE Centre for the

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<sup>209</sup> COVID-19 is a disease caused by a new strain of coronavirus.

<sup>210</sup> "International Day of the World's Indigenous Peoples: Info Kit," UN Web Services Section, Department of Public Information, United Nations (August 9, 2007).

development of potential anti-ulcer drugs conducted screening of 26 anti-ulcer plant species from Assam and Arunachal Pradesh. The center is also working on producing quality plant material from various medicinal plants that are found in the NER of India. The Center also has various initiatives for conservation of various plants e.g. “Patchouli (medicinal and aromatic plant) and seven *Garcinia* (Sap tree) species” which are endemic to Northeast India. As the NER has huge reservoirs of medicinal resources many pharmaceutical companies in other parts of the country depend upon the available resources. Hence, if the available resources are identified and conserved this could lead to both conservation as well as earning some economic benefits.<sup>211</sup> By adopting measures like this, the resources can be conserved and similarly, if the help of traditional knowledge of any community is taken, then such institutes must also acknowledge their rights, as they not only have the knowledge but also have conserved such resources.

For better Access and benefit sharing, India could look up to various examples of countries like South Africa<sup>212</sup>, Bhutan<sup>213</sup> and Australia<sup>214</sup>. While the application for bioprospecting in India is dealt with thumb-rule policy, which fails to include the local communities, India could also adopt policies that the above-mentioned countries follow. The authorities regulating the process of bioprospecting in these countries are required to provide access to the bio prospectors to use the genetic resources and associated traditional knowledge but restrict the bioprospectors to conclude a benefit sharing agreement. Unlike the thumb-rule policy of India the countries enter into a ‘scoping agreement’ through which the bioprospectors are allowed to research on the genetic substances or resources constituting part of the traditional knowledge

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<sup>211</sup> Making medicinal plant wealth work for Northeast India, *available at*: <https://www.teriin.org/article/making-medicinal-plant-wealth-work-northeast-india> (last visited on May 14, 2021).

<sup>212</sup> The South African National Environment Management: Biodiversity Act 2004.

<sup>213</sup> Bhutan’s draft ABS policy.

<sup>214</sup> The Australian ABS Framework.

without benefit sharing but only for a specified period of time. The bioprospectors are allowed under the agreement to perform only specific kinds of experiments and they are prohibited from commercialization of such resources. Hence, the bioprospectors are not allowed to conduct market testing, or develop product, or advertise, manufacture, or claim intellectual property rights over it.<sup>215</sup>

This way the bio prospectors can complete their research and if certain development is done then a fair and equitable benefit sharing can be done, as such a decision could be fair, unlike the thumb rule where the bio prospectors nor the Expert committee can decide the quantum of benefit. Bioprospecting gives importance to natural resources associated with traditional knowledge that helps in development of new bioactive principles and medicines. In her book Jubilee Purkayastha mentions that bioprospecting has two major goals: ‘the sustainable use through biotechnology of biological resources and their conservation’ and ‘the scientific and socioeconomic development of source countries and local communities’.<sup>216</sup> Hence, if bioprospecting is done in proper manner as the author suggests it could be beneficial for development of new medicines or products together with the socioeconomic development of the countries and the communities who have been using such traditional resources. so, it is necessary that the benefit sharing provisions are looked at properly before making bioprospecting agreements.

History provides us with the proof that the resources of India were misappropriated at the times of colonization and the same has been continuing, the developed or the technology rich countries misuse the resources of the developing countries where the resources are in abundance. Hence, strict legislation must be established to control issues of biopiracy, illegal trade e

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<sup>215</sup> *Supra* note at 156.

<sup>216</sup> Jubilee Purkayastha, *Bioprospecting of Indigenous Bioresources of North-East India*, p.4-19 (2016).



## CHAPTER THREE

### INTERNATIONAL INSTRUMENTS FOR PROTECTION OF RIGHTS OF INDIGENOUS PEOPLES

#### 3.1 INTRODUCTION

Indigenous peoples are considered as an undeniable stakeholder in the development agenda. They make up approximately 5% of the world's total populations, and comprise about 15% of the global poor.<sup>217</sup> They are one of the vulnerable groups and have faced numerous issues since the colonial period. Their rights, though debated and discussed, have not yet been protected or recognised. In the last few decades the hardships of indigenous peoples have increased, making them face various issues. Indigenous peoples play a major part in sustainable development, conservation and management of natural resources and their contributions must be acknowledged and appreciated. With numerous biotechnological experiments, genetic engineering, it is essential to recognise the rights of indigenous people over the use, conservation and management of biological resources. They have lived in close contact with nature and hence, their way of livelihood and traditional knowledge that they have followed can be helpful to protect the indigenous traditions, cultures and in other hand also help in finding new solutions to issues like food insecurity and malnutrition, poverty and environmental degradation.<sup>218</sup> Indigenous peoples have played an important role in conservation and sustainable use of the biological resources and many believe that they are the ones who have helped in protection of biological diversity. Many historical events provide

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<sup>217</sup> Indigenous Peoples, *available at*: <https://www.worldbank.org/en/topic/indigenouspeoples> (January 23, 2020).

<sup>218</sup> State of the World's Indigenous Peoples, *available at*: [https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP\\_web.pdf](https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP_web.pdf) (last visited on January 23, 2020).

evidence to the failure to provide protection to them, and their human rights must be recognised and protected at all cost.

### 3.2 DEFINITION OF INDIGENOUS PEOPLES

Indigenous peoples are those people who are regarded to have an identity and historical existence that is different from the others, they also claim rights over the lands that they have been living in since ages.<sup>219</sup> There is no authoritative definition of Indigenous Peoples, but certain criteria are laid down that helps to define indigenous peoples. The indigenous peoples are often termed as ‘tribal’ as they have distinct culture, traditions and the laws that govern are mostly developed by themselves. Indigenous or tribal peoples are considered as world’s most underprivileged minorities, as they face constant threats.<sup>220</sup> They have been victims of annexations and were treated lower based on racial, cultural and ethnicity, they were regarded inferior and most of the times treated as outsiders than the ones who invaded their territories.<sup>221</sup> Indigenous peoples possess a distinctive culture that consists of the natural resources, and their different culture and traditions that are different from the dominant population.<sup>222</sup>

In an article<sup>223</sup> by Jose Martinez Cobo,<sup>224</sup> lays down a few criterias that are essential to identify indigenous peoples, firstly, they must have a historical continuation with the place they reside. Similarly, they must have distinctive characteristics and non-dominant character, and must

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<sup>219</sup> Definition of indigenous people, *available at*: <https://www.arcticcentre.org/EN/arcticregion/Arctic-Indigenous-Peoples/Definitions> (last visited on January 24, 2020).

<sup>220</sup> Defining Indigenous, *available at*: <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/defining-indigenous> (last visited on January 24, 2020).

<sup>221</sup> *Id.*

<sup>222</sup> What Defines an Indigenous People?, *available at*: <https://www.regjeringen.no/en/topics/indigenous-peoples-and-minorities/Sami-people/midtspalte/What-Defines-an-Indigenous-People/id451320/> (last visited on January 23, 2020).

<sup>223</sup> “Study of the problem of discrimination against indigenous population”, *available at*: <https://www.un.org/development/desa/indigenouspeoples/publications/2014/09/martinez-cobo-study/> (last visited on 24, 2020).

<sup>224</sup> Jose R. Martinez Cobo of Ecuador was appointed Special Rapporteur for the study of the problem of discrimination.

have a determination to develop, transfer and preserve their ancestral territories and have an identity to the future generation that is related to their cultural, social institutions and legal system.

The term Indigenous or Tribal Peoples have no universal definition, but ILO in its Convention No.169 lays down the criteria that can help in identifying them.<sup>225</sup> Indigenous peoples have their own tradition, culture, and social, economic and political institutions that they have followed since ancient times. They are regarded as people who have been living in a particular geographical region of the country even before the conquest, colonization or establishment of present state boundaries.<sup>226</sup>

Under Article 1(1b)<sup>227</sup> of the International Labour Organization's Convention a general definition is laid down for defining the Indigenous and Tribal Peoples (169).<sup>228</sup>

Indigenous peoples have and are still facing a lot of discriminations, economic and social disadvantages, and are mostly deprived of their social protection benefits.<sup>229</sup> The rights of indigenous peoples have become one of the important topics for framing international law and policy as a result of various movements initiated by indigenous peoples, civil society,

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<sup>225</sup> C169-Indigenous and Tribal Peoples Convention 1989 (No.169), *available at*: [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_ILO\\_CODE:C169](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169) (last visited on July 18, 2021).

<sup>226</sup> Who are the indigenous and tribal peoples? *available at*: [https://www.ilo.org/global/topics/indigenous-tribal/WCMS\\_503321/lang--en/index.htm](https://www.ilo.org/global/topics/indigenous-tribal/WCMS_503321/lang--en/index.htm) (last visited on July 10, 2021).

<sup>227</sup> This Convention applies to people in independent countries who are regarded as indigenous.

<sup>228</sup> General Definition of Indigenous Peoples, *available at*: <https://www.arcticcentre.org/EN/arcticregion/Arctic-Indigenous-Peoples/Definitions> (last visited on July 17, 2021).

<sup>229</sup> Indigenous peoples, *available at*: <https://www.amnesty.org/en/what-we-do/indigenous-peoples/> (last visited on January 26, 2020).

international mechanisms and States at the national, regional and international levels for the protection or acknowledgment of their rights.<sup>230</sup>

In 2007 the General Assembly adopted the UN Declaration on the Rights of Indigenous Peoples, with the main aim to provide indigenous peoples the right, without discrimination, and for means to improve their economic and social conditions. They are provided with various rights and it includes the right to education, access to employment, vocational training and other social security like housing, sanitation, health etc. Apart from this, States have a duty to take effective steps to ensure that the socio and economic condition of the people are guaranteed. It is essential to provide more protection to the rights of older indigenous people as they are subjected to numerous discriminations and also the needs of women, children and persons with disabilities must be provided.<sup>231</sup>

The existing international laws have through debates, discussions and understanding developed various rights for the protection of the indigenous peoples. Such rights include their human rights, and such treaties that are adopted to address the various issues that are faced by the indigenous communities, especially the matters related to their right to lands, resources and self-determination.<sup>232</sup> Still there exists a constant fear among the indigenous peoples as their human rights are easily violated. The issues relating to the rights over the lands, territories have threatened their cultural and economic rights. Various policies have been framed for the protection of indigenous peoples at international level.<sup>233</sup>

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<sup>230</sup> Indigenous Peoples and the United Nations Human Rights System, *available at*: <https://www.ohchr.org/documents/publications/fs9rev.2.pdf> (last visited on January 27, 2020).

<sup>231</sup> Implementing the UN Declaration on the Rights of Indigenous Peoples, *available at*: <http://archive.ipu.org/PDF/publications/indigenous-en.pdf> (last visited on January 27, 2020).

<sup>232</sup> The Rights of Indigenous Peoples, *available at*: <http://hrlibrary.umn.edu/edumat/studyguides/indigenous.html> (last visited on January 27, 2020).

<sup>233</sup> Human Rights, *available at*: <https://www.un.org/development/desa/indigenouspeoples/mandated-areas1/human-rights.html> (last visited on January 27, 2020).

The World Health Organisation has defined Indigenous Peoples as communities who are distinct and have their own culture and traditions.<sup>234</sup> They must be recognised as a community and their rights must be protected at International, national or regional level.

### **3.3 RIGHTS OF INDIGENOUS PEOPLES**

There are various societies in the world that enjoy ethnic, linguistic and religious diversity. To end the discriminations and hardships faced by minorities it is important to provide protection and recognise their diversity with the help of various human rights standards at national and international level. The indigenous peoples have various rights and their rights are recognised under various Declarations and Conventions. Some of the basic rights of the indigenous peoples are:

#### **3.3.a. Self-determination**

Right to self-determination is one of the most important rights of the indigenous peoples, this right is related to cultural as well as political rights. This right includes the right of the people to participate and have a say in matters that are related to them, it also includes indigenous peoples' autonomy over cultural matters.<sup>235</sup> It is the duty of the States to see that the consent is availed from the people freely and they must also obtain the cooperation before implementing any legislative or administrative measures that may affect them.<sup>236</sup>

#### **3.3.b. Rights over land, resources and territories**

The indigenous communities are identified through the place they live in. Their rights over their land cannot be taken away. Numerous Human Rights laws by the United Nations have

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<sup>234</sup> Indigenous Populations, *available at*: [https://www.who.int/topics/health\\_services\\_indigenous/en/](https://www.who.int/topics/health_services_indigenous/en/) (last visited on February 5, 2021).

<sup>235</sup> *Supra* note at 230.

<sup>236</sup> UN Declaration on the Rights of Indigenous Peoples, *available at*: <https://www.humanrights.gov.au/our-work/un-declaration-rights-indigenous-peoples-1> (last visited on February 7, 2020).

also recognised the rights to land, territory and resources as essential features that help in identification of the indigenous peoples. The resources that they have used traditionally have also played an important role in their life. They depend upon their lands for various purposes and are attached to it. Hence, their rights over the land, territories and resources cannot be overlooked.<sup>237</sup>

### **3.3.c. Economic, social and cultural rights**

Indigenous peoples like any other person have the right to health, education, employment, sanitation, social security and adequate standard of living.<sup>238</sup> Their cultural rights are quite distinctive and unique. Such rights also include the right to practice and revitalize their cultural traditions, customs. These rights are important as it helps in protection of their cultural heritage, traditional knowledge and traditional cultural practices.<sup>239</sup>

### **3.3.d. Collective rights**

Indigenous people's rights are collective in nature. They live in a community and they have their customs, cultures, practices that they have been following collectively. Mostly they depend upon each other and there is no concept of individual or private rights. Hence, they are collectively recognised as indigenous communities.<sup>240</sup>

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<sup>237</sup> Land Rights as Human Rights, *available at*: <https://sur.conectas.org/en/land-rights-human-rights/> (last visited on February 7, 2020).

<sup>238</sup> *Supra* note at 230.

<sup>239</sup> The Right to Health, *available at*: <https://www.ohchr.org/Documents/Publications/Factsheet31.pdf> (last visited on February 8, 2020).

<sup>240</sup> The Cultural Rights of Indigenous Peoples: Achievements and Continuing Challenges, *available at*: <https://academic.oup.com/ejil/article/22/1/121/436597> (last visited on February 8, 2020).

### **3.3.e. Equality and non-discrimination**

Right to equality is the basic rights and must be awarded to all irrespective of caste, religion, sex, creed, colour etc. They must be accorded full respect and must not be discriminated against. Their rights must be recognised and protected. They have the right to participate in matters that are related to them and an active participation must be strived. They must be free of coercion, intimidation or manipulations and must understand the consequences by the states, governments and other institutions or organizations. They have the right to say and must have equal rights to participate in matters as a competent and legitimate stakeholder in matters that may affect them directly or indirectly.<sup>241</sup>

### **3.3.f. Free, prior and informed consent**

The idea of free, prior and informed consent is one of the important principles that must be upheld while deciding the matters related to indigenous communities.<sup>242</sup> The State must see that the consent of the indigenous peoples is obtained freely before starting or concluding any projects, programmes, legislative and administrative measures that are related to them.<sup>243</sup> As indigenous peoples have rights over the lands, resources and territories, the consent of indigenous peoples must be availed. They must be made known about the projects and must have an active participation in the counseling processes especially in the matters that are connected with their rights. They must understand the matters they are going to deal with and for this lawful consultation measures must be given to them so that they can give their consent

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<sup>241</sup> Equality and Non-discrimination, *available at*: <https://www.un.org/ruleoflaw/thematic-areas/human-rights/equality-and-non-discrimination/> (last visited on February 8, 2020).

<sup>242</sup>FAO policy on Indigenous and Tribal Peoples, *available at*: [https://www.fao.org/fileadmin/user\\_upload/newsroom/docs/FAO\\_policy.pdf](https://www.fao.org/fileadmin/user_upload/newsroom/docs/FAO_policy.pdf) (last visited on February 8,2020).

<sup>243</sup> Free, Prior and Informed Consent of Indigenous Peoples, *available at*: <https://www.ohchr.org/Documents/Issues/ipeoples/freepriorandinformedconsent.pdf> (last visited on February 8, 2020).

freely.<sup>244</sup> The right demands that the indigenous peoples are consulted and a consent is availed from them before doing any activities like research.<sup>245</sup>

### 3.4 HISTORICAL BACKGROUND

The term indigenous is derived from the Latin word 'indigenus' and 'indigena' (native) and from the Old Latin word indu; that is derived from the archaic 'endo' (a cognate of the Greek 'endo'), meaning 'in, within' and the Latin 'gignere; in Latin meaning to beget' from the root 'gene' meaning 'to produce, give birth, beget.' The word was used for the first time to describe plants and cultures in the 1640s. In simple terms it was used to describe something that was naturally occurring, living, growing in a particular region or environment. In 2002 the United Nations in its political declaration of the World Summit on Sustainable development officially used the word 'indigenous'. There exists no universal definition and there are debates on what exactly should be the definition as they are called with different terms like aboriginals, tribal, Indian, native, first origin etc., Due to the diverse characteristics of the indigenous peoples there is still no accepted official definition of 'indigenous' that is adopted by UN system body.<sup>246</sup> In 1494 the world was divided between Portugal and Spain who were the first European powers to build colonial empires. The people were categorized according to the country they resided or inhabited. The concept of indigenous or colonized people grew due to the concept of colonization and categorization.<sup>247</sup>

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<sup>244</sup> *Supra* note at 235.

<sup>245</sup> Free Prior and Informed Consent, *available at*: <http://www.fao.org/3/a-i6190e.pdf> (last visited on February 10, 2020).

<sup>246</sup> Michael A. Peters, Aborigine, Indian, indigenous or first nations? Vol49 Education Philosophy and Theory 2017, *available at*: <https://www.tandfonline.com/doi/full/10.1080/00131857.2017.1279879> (last visited on February 10, 2020).

<sup>247</sup> Indigenous Peoples and their Rights: How They Started, Why They Matter, *available at*: <https://impakter.com/indigenous-peoples-part-one/> (last visited on January 15, 2020).



Later in 1648, with the Treaty of Westphalia the modern international law developed. Under this Treaty an international system with state-centered domination on independent states was recognised.<sup>248</sup> During this period Thomas Hobbes, Christian Wolff and Samuel Pufendorf contributed to the evolution of natural law. The theory of natural rights of states and individuals was developed during this time.<sup>249</sup> Under the concept of ‘law of nations’ the Indigenous peoples were regarded as an independent community, and could enjoy rights and duties, but only if they would qualify as a nation-state. The Indigenous communities had little chance to be included in the system if states failed to provide proof for their statehood which was the main criteria for inclusion under the European forms of political and social organization. Due to this reason they failed to be recognised as distinct communities. The landmark judgment of United States Supreme Court on the status of Native Americans<sup>250</sup> provides uncertainty in addressing the status and rights of indigenous peoples. There are many instances where their rights weren’t recognised e.g. in Johnson v. M’Intosh case the indigenous peoples were deprived of the status of nations or states and also denied their independence to form a group and their right over the lands they occupied. There were other cases too where the identity of indigenous peoples was questioned. In the case of Worcester v. Georgia,<sup>251</sup> Indian tribes in the U.S. were recognised ‘original natural rights’ to their ancestral lands, but those lands could be divested from them by voluntary cession or actual conquest. It was after this judgment that the “European encroachment upon indigenous peoples’ lands were to be legalized”<sup>252</sup>. Yet the status of indigenous peoples/ tribes was unclear as they were unable to satisfy the European

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<sup>248</sup>Francesca Panzaroni, Indigenous Peoples’ Right to Self- Determination and Development Policy, *available at*: <https://core.ac.uk/download/pdf/41230579.pdf> (last visited on January 17, 2021).

<sup>249</sup> *Id.*

<sup>250</sup> U.S. Supreme Court decisions are also known as Chief Justice John Marshall’s trilogy. Johnson v. M’Intosh 21 U.S. (8 Wheat.), 543 (1823); Cherokee Nation v. Georgia, 30 U.S. (5 Pet.) 1 (1831); Worcester v. Georgia 31 U.S. (6 Pet.) 515 (1832).

<sup>251</sup> Worcester v. Georgia 31 U.S. (6 Pet.) 515 (1832).

<sup>252</sup> *Supra* note at 241.

criteria of nationhood. With the advent of positivist theory there was a decline of the status and inherent rights of indigenous peoples which were recognised by the natural law theory.<sup>253</sup>

The indigenous peoples were considered as non-citizens by the colonial power, it was at the Berlin Africa Conference of 1884-1885, the first international document for protection of indigenous population discussed. The League of Nations, 1920 under Article 22 provided that European countries take initiatives for the promotion of the well beings and to adopt development measures for indigenous people's residing in remote territories.<sup>254</sup> They were considered as weaker and the people who needed some support to be able to face the strenuous conditions of the modern world. Even after this various discrimination was faced by the indigenous peoples and in 1923 and 1925 the indigenous leaders from around the globe submitted grievances to the League of Nations. Various issues were brought to light accordingly. It was laid down that the available laws were racist and violated the rights of the indigenous peoples, and the people wanted to live freely and be guided by their own laws, under their own land and faith. Later another case was brought by a Maori religious leader T.W. Ratana, who was against the Treaty of Waitangi. Though no audience was provided to them at the League of Nations, it was the first instance where they brought to notice the conditions of the indigenous peoples to the world. With the support of the media, they traveled to different places and highlighted the grievances of the people.

Slowly, the conditions of the indigenous peoples were brought to light and in 1926 the International Labour Organization established the Community of Experts on Native Labour to study the situations of the indigenous peoples who were used as slaves in many places. Later

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<sup>253</sup> *Id.*

<sup>254</sup> *Supra* note at 240.

in 1930 after various studies, the series of conventions and recommendations to deal with forced labour were adopted.<sup>255</sup>

In 1953, the International Labour Organization conducted a world-wide survey of indigenous peoples and published a report.<sup>256</sup> It was an important publication because it brought to light the conditions of indigenous peoples in rural areas in Asia and Latin America, and how they were being abused. All this was prevailing because the rights of the indigenous peoples were not guaranteed and still no definition of indigenous people was provided by that time.

In 1945 the United Nations was established but still no recognition was given to the indigenous people. The Article 73<sup>257</sup> of the UN Charter laid down that indigenous peoples are those people who live on the territories that are not part of self-government.

In 1949, the Resolution 275(III) was passed as an outcome of the UN debate on indigenous issues. Bolivia proposed establishment of a sub-commission of the Economic and Social Council (hereafter referred to as ECOSOC). The UN and ILO decided to cooperate with each other and highlight the conditions faced by the 'aboriginal populations' and decided to frame the Andean Indian Program to 'bring development'<sup>258</sup> to the concerned peoples. It was due to the Resolution the understanding of indigenous shifted from geographical to sociological ones. This was considered as the first step to recognise and define indigenous peoples as a unique group who had their own tradition, culture, language, history and had a special bond with their land. In 1957, Convention 107 concerning 'the Protection and Integration of Indigenous and Other Tribal and Semi-Tribal populations in Independent Countries' was surfaced by the International Labour Organisation.<sup>259</sup> The International Covenant on Economic, Social and

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<sup>255</sup> Indigenous Peoples and their Rights: How They Started, Why They Matter, *available at*: <https://impakter.com/indigenous-peoples-part-one/> (last visited on January 15, 2020).

<sup>256</sup> Indigenous Peoples: Living and Working Conditions of Aboriginal Populations in Independent Countries"

<sup>257</sup> The United Nations Charter, art. 73

<sup>258</sup> *Supra* note at 248.

<sup>259</sup> *Supra* note at 241.

Cultural Rights (hereafter referred to as ICESCR), and International Covenant on Civil and Political Rights (hereafter referred to as ICCPR) were adopted in 1966, and both the Covenant under Article 1 provides for right to self-determination to all people.<sup>260</sup> It was only after the Covenant provided the right to self-determination the international legal instruments acknowledged the identity of indigenous peoples. The 2635 (XXV) 'Declaration on Principle of International Law concerning Friendly Relations and Cooperation among States' reinforced the principle of self-determination of all peoples.<sup>261</sup> After this the UN gave more importance to indigenous peoples and their rights.

With many debates, discussions and protests by the Indigenous groups, the United Nations gave more attention to their rights, and a Special Rapporteurs was appointed by the Commission on Human Rights. The main aim of appointing such special Rapporteurs was to study the discrimination that was taking place against the minority groups. The first report mentioned that indigenous peoples were in a disadvantage position as compared to other population and continuously faced discrimination and injustice.<sup>262</sup> The World Conference to Combat Racism and Discrimination provided that indigenous peoples had right to maintain their traditional structure of economy and culture, and also protect their own language it also recognised their relationship with the land and gave a stress on their land rights and natural resources.<sup>263</sup> In 1982 the UN Working Group on Indigenous Population (hereafter referred to as WGIP) was founded, the Group opposed the colonization of the indigenous peoples. The Group also looked at different problems faced by the indigenous peoples and tried to provide a solution for the same. Gradually, there were different events that were adopted to recognise

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<sup>260</sup> The International Covenant on Economic, Social and Cultural Rights and International Covenant on Civil and Political Rights, 1976, art.1

<sup>261</sup> *Supra* note at 248.

<sup>262</sup> Henry Mined(ed.), *Indigenous Peoples: Self-determination, Knowledge and Indigeneity*, Eburon Academic Publishers, (2008).

<sup>263</sup> *Supra* note at 248.

the rights of indigenous peoples. The working group was formed with the help of the UN and any government, International or regional body was allowed to participate in the working group, these groups helped the indigenous peoples to initiate cultural and political movement and through these they could make the world understand about their problems.<sup>264</sup> In 1985 another step was taken by the UN General Assembly as they established the UN voluntary Fund for Indigenous Populations. In 1985 the drafting for ‘the UN Declaration on the Rights of Indigenous Peoples’ began. As the Declaration took time to be established many debates took place and the problems of indigenous peoples came to notice to many. Another international indigenous discourse took place in 2000 when the Permanent Forum on Indigenous Issues was established by the Economic and Social Council Resolution 2000/22.<sup>265</sup> In 1993 a World Conference on Human Rights was held and in this conference the need for creation of the Permanent Forum was discussed. It was felt that a body was required to monitor the rights of indigenous peoples and other matters that were concerned with them. Through this forum, the Indigenous groups could represent on equal terms with states. The indigenous peoples managed to influence the structures of the United nations through various struggles. They worked hard from local to international level, to bring to light various issues that they faced. In 2007 the UN General Assembly adopted the Declaration at its 61<sup>st</sup> Session. This was marked as a respect, recognition and a beginning as the indigenous people’s rights were recognised and people all around the world were with them.<sup>266</sup>

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<sup>264</sup> Catherine J. Iorns, “Indigenous Peoples and Self Determination: Challenging State Sovereignty”, vol24 *Case Western Reserve Journal of International Law* (1992).

<sup>265</sup> The United Nations Declaration on the Rights of Indigenous Peoples, *available at*: <https://www.ohchr.org/documents/issues/ipeoples/undripmanualforhris.pdf> (last visited on January 15, 2020).

<sup>266</sup> Vienna Declaration and Programme of Action, Adopted by the World Conference on Human Rights in Vienna on 25 June 1993, *available at*: <https://www.ohchr.org/en/professionalinterest/pages/vienna.aspx> (last visited on January 12, 2020).

The movement for recognition of their rights came this far because of the support of all the indigenous groups in the world, as they have similar concerns it helped them to decide and come up with common ideas that they placed.

Hence, it can be said that they have worked hard to highlight their issues and to make place for themselves among others. They have raised their issues and problems before the United Nations and UN also gave lots of opportunities to them to speak up for themselves. With their constant struggle they have been able to contribute to the establishment of the framework for the rights of indigenous peoples and their knowledge and different philosophies, medicine and science.<sup>267</sup> Since the Indigenous Peoples lived in close contact with nature, they started to look into ways to manage and avoid threats faced by the natural resources. Many States didn't recognise them as part of the country, and for that UN gave opportunities to them so that they could argue against ill treatments of the State. This way they found a platform to protest for their rights and needs.<sup>268</sup>

This process was not an easy one, because it took many years of debate, resolutions, achievements and failures to gain recognition from several international instruments and standards. Various mechanism like the UN Declaration on the Rights of Indigenous Peoples (hereafter referred to as UNDRIP), International Labour Organisation's Convention 107 and 169, Operational Directive 4.20 and the revised version Operational Policy 4.10 of the World Bank and the Policy on Indigenous Peoples were established and were very important for indigenous peoples, these organizations defined specific sets of rights of indigenous peoples.<sup>269</sup> Those rights are important as it provides a sense of support to them. They are entitled to

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<sup>267</sup> *Supra* note at 248.

<sup>268</sup> Indigenous peoples and the nature they protect, *available at*: <https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect> (last visited on January 13, 2020).

<sup>269</sup> Food and Agriculture Organization of the United Nations, Free Prior and Informed Consent, an indigenous peoples' right and a good practice for local communities, *available at*: <http://www.fao.org/3/i6190e/i6190e.pdf> (last visited on January 13, 2020).

numerous rights like rights against racial discrimination, torture and all other human rights as laid down under various legal instruments. Under the UN declaration on Minority Rights, 1992 the states are required to ensure that no state actions should hamper their rights especially related to religion, culture and language.<sup>270</sup> Other than the above-mentioned specific instruments there are other international organizations that provide protection to the rights of indigenous peoples. The International Fund for Agriculture Development (hereafter referred to as IFAD), is an agency that provides provisions for the rights of indigenous peoples. IFAD along with the World Bank has provided funds for various projects that are for the development of the indigenous peoples. Apart from providing funds the IFAD has constantly supported and participated in various indigenous groups' in international platforms such as the World Conference on Indigenous Peoples for capacity building of indigenous organizations and communities, and negotiations and dialogue among different stakeholders.<sup>271</sup> The IFAD designs various policies and requests for active participation from the indigenous peoples especially in matters that are connected with the communities. With constant struggle and support from many, much has been achieved by international and domestic organizations across the world. They have also addressed the issues that hamper the development of indigenous communities yet, much needs to be achieved in reality<sup>272</sup>. Yet in the report by organizations working for the rights of minority and indigenous population mentioned that still indigenous peoples are vulnerable and subjected to discriminations in the world.<sup>273</sup>

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<sup>270</sup> UN Declaration on Minority Rights, 1992.

<sup>271</sup> Indigenous Peoples at the United Nations, *available at*: <https://www.un.org/development/desa/indigenouspeoples/about-us.html> (last visited on January 13, 2020).

<sup>272</sup> Indigenous Peoples and their Rights: How They Started, Why They Matter, *available at*: <https://impakter.com/indigenous-peoples-part-one/> (last visited on January 15, 2020)

<sup>273</sup> IFAD, Indigenous Peoples, *available at*: <https://www.ifad.org/en/indigenous-peoples> (last visited on January 15, 2020).

### 3.5. NEED FOR PROTECTION OF RIGHTS OF INDIGENOUS PEOPLES

The Indigenous peoples are considered to be one of the vulnerable groups and have faced many advertisements as their rights aren't recognised. There exists a need to provide effective policies or provisions that can acknowledge the rights of the Indigenous peoples. They have been discriminated against, and their rights have been subjected to numerous violations in many instances. The history shows how they have struggled to bring to light the various issues and problems faced by them. Even after all debates, discussions the rights of the indigenous peoples have been infringed and are violated constantly and they still face continuous discriminations and marginalization.

The adoption of the Declaration of the Rights of Indigenous Peoples<sup>274</sup> is one of greatest achievements for the indigenous communities, it was adopted for protection of the rights of indigenous peoples. It took more than twenty years to adopt the Declaration. The Declaration was adopted on the International Day of the World's Indigenous Peoples.<sup>275</sup> Various entities of the UN system decided that even with numerous advancements at international and regional discussions the indigenous rights have been advocated yet, they are vulnerable and prone to various discriminations among them the women, children and persons with disabilities are the most vulnerable ones.<sup>276</sup> The main aim of the Declaration was to do justice to the indigenous groups. The Declaration provides a broad framework for the protection of the rights of indigenous communities and their rights includes the right to self-determination, traditional

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<sup>274</sup> Indigenous Peoples at the United Nations, *available at*:<https://www.un.org/development/desa/indigenouspeoples/about-us.html> (Last visited on January 17, 2021).

<sup>275</sup> *Supra* note at 267.

<sup>276</sup> Protecting indigenous peoples' rights' is protecting everyone's rights'-UN, *available at*:  
<https://news.un.org/en/story/2017/08/563032-protecting-indigenous-peoples-rights-protecting-everyones-rights-un> (last visited on January 5, 2020).



lands, cultural and collective rights<sup>277</sup>. The main objectives of the Declaration were to establish a comprehensive framework for minimum survival standards and to provide protection to Indigenous people's dignity and well-being.<sup>278</sup>

Even after the Declaration was adopted the Indigenous people were subjected to discriminations and still face such differences. The effective implementation of the Declaration to provide protection to the indigenous peoples shows why they are still in need of protection. It is necessary to recognise their challenges and various social, cultural and economic rights must be safeguarded and acknowledged. Their difficulties in accessing social protection benefits, economic and social disadvantages must be acknowledged.<sup>279</sup> There are several cases where the indigenous peoples are excluded from social protection and there exists inequalities between urban and rural areas, language and culture.<sup>280</sup> Till this date, indigenous peoples continuously face serious threats to their basic existence, despite international recognition and acceptance of the Declaration on Rights of Indigenous Peoples. They rank highest on various underdevelopment indicators and are the ones who are in prison, have low literacy rate and are unemployed.<sup>281</sup>

Discrimination can be of many types, for e.g. many countries, do not allow them to study their own language in the schools. Various treaties are framed in such a manner that take away the sacred lands and objects of indigenous peoples. There are various national government policies which infringe on the rights of Indigenous peoples to live in and use their traditional lands,

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<sup>277</sup> UN Declaration on the Rights of Indigenous Peoples, *available at*: [https://indigenousfoundations.arts.ubc.ca/un\\_declaration\\_on\\_the\\_rights\\_of\\_indigenous\\_peoples/](https://indigenousfoundations.arts.ubc.ca/un_declaration_on_the_rights_of_indigenous_peoples/) (last visited on

<sup>278</sup> Indigenous Peoples, *available at*: <https://socialprotection-humanrights.org/key-issues/disadvantaged-and-vulnerable-groups/indigenous-people/> (last visited on January 5, 2020).

<sup>279</sup> *Id.*

<sup>280</sup> *Id.* at 278.

<sup>281</sup> *Id.* at 278.

most of the time the policies are framed to exploit the land and resources that they have been using since ages. There are cases where governments have applied forced assimilation to eradicate indigenous peoples, cultures, and traditions. Time and again the governments have failed to acknowledge the human rights of the indigenous peoples and disrespected the indigenous values, traditions.<sup>282</sup>

Many States are of the view that to protect and promote of indigenous peoples' human rights it is necessary that the human rights standards are applied in a more responsible manner. But indigenous peoples have constantly argued the available international human rights standards are not sufficient to provide protection to tier traditional knowledge.<sup>283</sup> According to them a new international document must be developed to look into the matters related to the needs of indigenous peoples all over the world. The Universal Declaration of Human Rights provides human rights to all individual human beings, but the matters related to protection of the collective rights of indigenous people through an international law remains unclear.<sup>284</sup>

Traditional Knowledge that is practiced by the indigenous peoples are being exploited and this in turn has led to infringement on the economic rights of the indigenous communities. The knowledge developed by the indigenous communities has contributed to various research especially in development of drugs by the pharmaceutical companies and other agricultural and cosmetic products. Lack of acknowledgment to indigenous peoples as custodian of such knowledge infringes their rights, and when the knowledge is used the consent of the indigenous peoples are not availed. Their main concern is that they should be recognised as the holders of

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<sup>282</sup> United Nations Declaration on the Rights of Indigenous Peoples, *available at*: [https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP\\_E\\_web.pdf](https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf) (last visited on February 17, 2020).

<sup>283</sup> *Supra* note at 230.

<sup>284</sup> The Rights of Indigenous Peoples, *available at*: <http://hrlibrary.umn.edu/edumat/studyguides/indigenous.html> (last visited on January 7, 2020).

the knowledge and their rights to share equitable benefits derived from the uses of this knowledge must also be acknowledged.<sup>285</sup> There is no doubt on how they have conserved and used the natural resources sustainably since ages, and hence, their rights need to be protected at all cost.

They fear that lack of protection of the traditional knowledge could lead to loss of such knowledge completely. As such knowledge is transmitted orally the preservation of indigenous knowledge is under threat. In a report prepared by the Australian Institute of Aboriginal and Torres Strait Islander Studies to the Secretariat of the Convention on Biological Diversity identified the following threats to Indigenous traditional knowledge:<sup>286</sup>

- Political pressure
- Cultural integrity
- Social and economic pressures
- Territorial pressures
- Exploitation of traditional knowledge
- Development policy
- Globalization and trade liberalization.<sup>287</sup>

The main cause of threat is the lack of protection of knowledge. There are many cases of biopiracy and bioprospecting. The knowledge is being misappropriated due to which the indigenous communities have been facing the loss in terms of social, cultural and economic

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<sup>285</sup> The protection of Indigenous knowledge, *available at*:  
[https://www.humanrights.gov.au/sites/default/files/content/social\\_justice/nt\\_report/ntreport08/pdf/chap7.pdf](https://www.humanrights.gov.au/sites/default/files/content/social_justice/nt_report/ntreport08/pdf/chap7.pdf) (last visited on January 12, 2020).

<sup>286</sup> Composite Report on the Status and Trends Regarding the Knowledge, Innovations and Practices of Indigenous and Local Communities, *available at*:  
<https://aiatsis.gov.au/sites/default/files/products/submission/2006-convention-on-biological-diversity.pdf> (last visited on January 12, 2020).

<sup>287</sup> *Id*

manner.<sup>288</sup> Hence, there is a need to provide protection to indigenous people's rights, their knowledge and tradition that they have developed and preserved since time immemorial.

### **3.6. INTERNATIONAL LEGAL FRAMEWORK FOR PROTECTION OF RIGHTS OF INDIGENOUS PEOPLES**

For the last two decades Indigenous Peoples have been a part of the global civil society and played a significant role in bringing their issues to notice at the international level. International human rights law is regarded to be one of the greatest developments as the instrument has highlighted the rights of indigenous peoples. With the need to provide protection and to acknowledge various rights of Indigenous communities, various international legal frameworks have been set up.

#### **3.6.1. International Covenant on Civil and Political Rights, 1976**

The International Covenant on Civil and Political Rights is a comprehensive international legal agreement that guarantees civil and political rights. The International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights was an outcome of the Universal Declaration of Human Rights. "The Covenant on Civil and Political Rights provides a wide range of rights and promises to its people the right to dignity, participation in democratic political structures, cultural and linguistic expression, and full cultural self-determination".<sup>289</sup> The Covenant also provides protection to the dignity of each individual and promotes the enjoyment of civil and political rights within the states. There are 74 signatories and 168 parties to the Covenant and these parties are required to preserve the

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<sup>288</sup> Biopiracy related to Traditional Knowledge, *available at*: <https://birac.nic.in/webcontent/dib.pdf> (last visited on January 12, 2020).

<sup>289</sup> International Covenant on Civil and Political Rights, *available at*: <https://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx> (last visited on January 12, 2020).

basic human rights and to adopt various steps either administrative, judicial or legislative to protect the rights of the individuals.<sup>290</sup>

Article 1 of both the Covenants provides provision on right to self-determination. Article 1, provides for protection of the rights of all individuals and how they are equal before the law and no one can misuse the power for economic gains. The Indigenous peoples have basic sovereign rights to be recognised and respected.<sup>291</sup> Article 2 and 3 are based on the notion of non-discrimination which provides that the State parties must recognise the rights that are protected under the Covenant and see that man and women are treated equally.<sup>292</sup> The ICCPR also provides other rights like under Article 6 the Right to life is guaranteed, similarly Article 7 restricts torture of any kind, Article 8 provides the right to not be enslaved. The Covenant under Article 27 provides for freedom to the persons belonging to minorities.<sup>293</sup>

The Human Rights Committee that is established under Article 28 of the Covenant must look into the implementation made by the state parties and the state parties are also required to provide a report to the Committee for review, on measures that are adopted or used.

### **3.6.2. International Covenant on Economic, Social and Cultural Rights, 1976**

The International Covenant on Economic, Social and Cultural Rights also provides the right to self-determination under Article 1. A special committee is established, known as the Committee on Economic, Social and Cultural Rights and the Committee has played an important role in applying the right in the context of indigenous peoples.<sup>294</sup> The Committee

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<sup>290</sup> Summary: International Covenant on Civil and Political Rights (ICCPR), *available at*: <https://ccla.org/summary-international-covenant-on-civil-and-political-rights-iccpr/> (last visited on January 12, 2020).

<sup>291</sup> International Covenant on Civil and Political Rights, *available at*: <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/international-covenant-civil-and-political-rights> (last visited on January 12, 2020).

<sup>292</sup> International Covenant on Civil and Political Rights, 1976, art 2 and 3.

<sup>293</sup> International Covenant on Civil and Political Rights, 1976, art.27

<sup>294</sup> *Supra* note 282

addresses the various rights related to employment, education, health, food and other that are important to the indigenous peoples, the community also acknowledged the community held rights. The committee has played an important role to highlight the problems faced by the indigenous peoples. Based on the Committee's general comment No.7(1997) on the right to adequate housing recognised that the indigenous peoples suffer disproportionately from forced eviction. Likewise, the general comment No. 21(2009) provided that every individual has right to take part in cultural life as laid down under Article 15<sup>295</sup> of the Covenant. Special focus is given by the Committee to the community rights of the indigenous peoples as they have distinct cultural lives and their rights upon their ancestral lands is important to protect their identity. Importance is given to collective rights, as indigenous peoples collectively hold the knowledge. The general comment No.17 (2005) by the Committee provided provisions for benefits sharing that would arise out of the scientific, literary or artistic utilization that are based on the knowledge, innovations and practices of indigenous peoples. Such comment has helped in acknowledging the traditional knowledge and the economic rights of the indigenous peoples. According to the Committee, it is the duty of the State to ensure that the interest of indigenous peoples relating to their productions must be recognised and protected.<sup>296</sup>

### **3.6.3. Universal Declaration of Human Rights, 1948**

The Universal Declaration of Human Rights (hereafter referred to as UDHR) is a landmark document. The main aim of the Declaration was to universally protect the fundamental human rights. The draft of the Declaration was represented by different legal and cultural backgrounds from all religions of the world. On 10<sup>th</sup> December 1948, the UN General Assembly adopted

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<sup>295</sup> *Supra* note at 230.

<sup>296</sup> Economic and Social Council, General Comment No.17 (2005), *available at*: <http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=4slQ6QSmIBEDzFEovLCuW1a0Szab0oXTdlmnsJZZVQcMZjyZlUmZS43h49u0CNAuJljwgfzCL8JQ1SHYTZH6jsZteqZOpBtECZh96hyNh%2F%2FHW6g3fYyDXsSgaAmIP%2BP> (last visited on February 18, 2020).

the Declaration in Paris.<sup>297</sup> The main reason for drafting the UDHR was to foster interdependence among countries and to cooperate among each other to improve the quality of life of people by removing poverty. It also strived to develop a knowledge-based society within the country to enhance community and people empowerment. One of the objectives was also to improve the trade and financial market within the country and to enhance the country's economic competitiveness in the global market.<sup>298</sup> Under Article 27 of the UDHR, certain provisions are laid down for the protection of traditional knowledge of indigenous and local peoples and the needs for benefits sharing from the use of that knowledge.<sup>299</sup> Article 27.2 provides protection to the interests of an author.<sup>300</sup> The provision under Article 27.1 also provides the right of indigenous and local peoples to benefit from sharing their resources and knowledge".<sup>301</sup> Denial of their rights to access and benefit sharing would infringe their human rights. Apart from this the UDHR contains provisions relating to civil, political, economic, social and intellectual rights. Though the Declaration provides provision for protection of traditional knowledge from intellectual property protection, there are various limitations as it cannot be used as a legal instrument by the indigenous and local peoples to protect their traditional knowledge. UDHR largely provides for individual rights, whereas the traditional knowledge is collectively held and is collective property.<sup>302</sup> The rights of indigenous peoples generally include self-determination, rights to land, natural resources, and culture. The inherent rights of the indigenous peoples are collective in nature but emphasis on individual rights.

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<sup>297</sup> The Universal Declaration of Human Rights, *available at*:  
<https://www.ohchr.org/en/udhr/pages/udhrindex.aspx> (last visited on February 17, 2020).

<sup>298</sup> Human Rights: Objectives and Universal Declaration of Human Rights, *available at*:  
<http://www.yourarticlelibrary.com/essay/human-rights-objectives-and-universal-declaration-of-human-right/30223> (last visited on February 18, 2020).

<sup>299</sup> The Universal Declaration of Human Rights, 1948, art.27.1

<sup>300</sup> The Universal Declaration of Human Rights, 1948, art.27.2

<sup>301</sup> Intellectual Property and Human Rights, *available at*:  
[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_762.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_762.pdf) (last visited on February 18, 2020).

<sup>302</sup> Intellectual property protection and Traditional Knowledge, *available at*:  
[https://www.wipo.int/edocs/mdocs/tk/en/wipo\\_unhchr\\_ip\\_pnl\\_98/wipo\\_unhchr\\_ip\\_pnl\\_98\\_4.pdf](https://www.wipo.int/edocs/mdocs/tk/en/wipo_unhchr_ip_pnl_98/wipo_unhchr_ip_pnl_98_4.pdf) (last visited on February 18, 2020).

### 3.6.4. International Labour Organization (ILO) Convention 107 and 169, 1957

The International Labour Organization (hereafter referred to as ILO) is an agency of the United Nations that works for the improvement of working conditions of the citizens of its member states.<sup>303</sup> ILO has played an important role in highlighting the issues of indigenous peoples in front of the international community. The ILO convention 107 and 169 are unique as they constitute the only international instruments on indigenous rights that are binding to the state parties.<sup>304</sup>

The ILO ratified the Indigenous and Tribal Populations Convention, 1957 (No.107), and the main objective of the instrument was to enhance and improve the living conditions of Indigenous peoples. Indigenous and Tribal Peoples Convention, 1989 (NO.169) was the new name given to the ILO Convention 107 after revision. The Convention is the only international treaty that comprehensively and specifically covers the rights of indigenous and tribal peoples. Convention 169 provides importance to the indigenous and tribal peoples. The previous Convention had little emphasis on the ways of life, identity, traditions and customs of indigenous communities. ILO Convention 169 covered various areas like requirements on health, education, traditional occupations, and society security. The rights of indigenous peoples over traditionally owned or occupied lands and the resources that are connected to the lands has been recognised at the international law.<sup>305</sup> The Convention provides the rights of indigenous and tribal peoples to participate in matters related to them and to exercise control

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<sup>303</sup> What is the International Labor Organization Convention 169 (1989)? *available at:* [https://indigenousfoundations.arts.ubc.ca/ilo\\_convention\\_169/](https://indigenousfoundations.arts.ubc.ca/ilo_convention_169/) (last visited on January 12, 2020).

<sup>304</sup> *Supra* note at 248.

<sup>305</sup> Indigenous Peoples' Right to Self-Determination and Development Policy, *available at:* <https://core.ac.uk/download/pdf/41230579.pdf> (last visited on January 17, 2021).



and contribute in the making and implementations of various plans and programs at national and regional levels.<sup>306</sup>

Under this Convention the rights of self-determination of indigenous peoples was recognised. The convention also required the national governments to set principles on matters related to the economic, social, cultural and political rights, including the right to their lands. Since the 1920s, ILO had been engaged with issues concerning indigenous and tribal peoples. Together with ILO the Decent Work Agenda of ILO has been working for gender equality and non-discrimination. And provided a framework for the empowerment of indigenous and tribal people. It also provides opportunities to indigenous women and men to utilize their potential at work and also helps in eliminating poverty, improvement in sustainable development and climate change action.<sup>307</sup>

The main aim of the Convention is to provide minimum standards of the rights of indigenous peoples. It consists of 44 Articles and recognises the desire of Indigenous people to control over their own institutions, and strive for their life and economic developments so as to protect their identities, languages and religions.<sup>308</sup> The rights of the indigenous peoples to participate in matters relating to their societies and territories has been guaranteed under the Convention. Under Article 7 of the Convention, the rights of Indigenous peoples to prioritize their own development needs has been recognised. The Convention also calls upon the Government to uphold and recognise the unique historical and socio-economic position of the indigenous

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<sup>306</sup> ILO Convention 169, art. 7 (1).

<sup>307</sup> Indigenous and tribal peoples, *available at*: [https://www.ilo.org/global/topics/indigenous-tribal/lang--en/index.htm](https://www.ilo.org/global/topics/indigenous-tribal/lang-en/index.htm) (last visited on January 12,2020).

<sup>308</sup> International Labour Organization (ILO) Convention 107 and 169, 1957.

people within the state. To avoid the displacement of the indigenous peoples their rights to land were protected and recognised.<sup>309</sup>

Article 20-30 of the Convention provides provisions relating to equal and fair employment opportunities to the Indigenous peoples, and Article 25 and 27 provide provisions to rights to health care and education, likewise Article 28 provides provisions that includes the right to education in one's own language. The Convention provides the idea of Indigenous peoples right to self-determination and till now only 21 nations have ratified the Convention. Most of the nation-states do not recognise the sovereignty of the indigenous peoples. The nations in Latin America who have ratified the Convention 169 have weak enforcement.<sup>310</sup> Nations like Canada and the United States haven't ratified the Convention. Though the membership to the Convention is less, yet many Indigenous leaders have regarded Convention 169 as an important initiative for availing respect for Indigenous peoples' human rights and improving the standards of living. The Convention recognizes the Indigenous right to self-determination. Convention 107 is replaced by Convention 169 in many countries. It was due to the hard work of the ILO Convention 169 that the U.N. Declaration on the Rights of Indigenous Peoples, which was adopted in 2007. The Convention highlights various issues related to the indigenous peoples and also provides instance where they have face discrimination as many countries deny their existences.<sup>311</sup> One of the achievements of the Convention is that the rights of indigenous peoples are recognised and protected within the national jurisdictions.

Though, the Convention highlighted the rights of the indigenous and tribal people for the first time at the international level, it was criticized as there was no direct participation of the

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<sup>309</sup> Barriers to the Recognition of Indigenous Peoples' Human Rights at the United Nations, *available at*: <http://138.25.65.17/au/journals/MonashULawRw/2000/5.pdf> (last visited on February 20, 2020).

<sup>310</sup> *Supra* note at 226.

<sup>311</sup> Lee Sweoston, 'Indigenous Peoples in International Law and Organizations' in Joshua Castellino and Niamh Walsh (eds.), *International Law and Indigenous Peoples* (Leiden, The Netherlands; Martinus Nijhoff, (2005)

indigenous peoples' representatives in setting the standards and the indigenous peoples were not give the power to make decisions that were related to their rights to self-determination.

### **3.6.5. Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities, 1992**

The people belonging to minority groups are often the victims of discrimination, their rights are infringed and most of the times they suffer violence that threatens their human rights and identities. They become victim of genocide, crimes against humanity, war crimes, ethnic cleansing etc. With past experiences it has been understood that the minorities are frequently targeted, hence, it is the duty of the United Nations and most states to prevent violence against them.<sup>312</sup> They have been the victim of such advertisements since earlier times and hence, to avoid such tragic experiences and to overcome the discrimination against minorities the United Nations Member States took a major step by collectively implementing the Declaration on the Rights of Persons belonging to National or Ethnic, Religious and Linguistic Minorities in 1992.<sup>313</sup> The Human Rights Council formed a special Rapporteur on minority issues and requested the Special Rapporteur to promote the implementation of the Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities.<sup>314</sup>

The main purpose of the Declaration was to provide provisions for protection to the rights of peoples belonging to minorities. The States are required to ensure that the peoples do not face discriminations and equally participate in matters that are concerned to them.<sup>315</sup> The Declaration was inspired by Article 27 of the International Covenant on Civil and Political

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<sup>312</sup> Effective promotion of the Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities (A/69/266), *available at*: <https://reliefweb.int/report/world/effective-promotion-declaration-rights-persons-belonging-national-or-ethnic-religious> (last visited on January 15, 2020).

<sup>313</sup> *Supra* note at 305.

<sup>314</sup> *Id.* at 305.

<sup>315</sup> Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities, *available at*: [https://www.ohchr.org/Documents/Issues/Minorities/Booklet\\_Minorities\\_English.pdf](https://www.ohchr.org/Documents/Issues/Minorities/Booklet_Minorities_English.pdf) (last visited on January 15, 2020).

Rights Concerning the Rights of Persons Belonging to Ethnic, Religious and Linguistic Minorities.<sup>316</sup>

Article 1 provides provisions relating to protection and promotion of culture, ethnicity of minorities.<sup>317</sup> The preamble provides an outlook on the rights of the minorities and the need to promote and protect such rights. The Convention acknowledged the minority's contribution to the States political and social stability and their rights must be acknowledged and protected as it is an integral part of the development of society.<sup>318</sup>

### **3.6.6. International Convention on the Elimination of All Forms of Racial Discrimination and the Committee on the Elimination of Racial Discrimination, 1965**

The International Convention on the Elimination of All Forms of Racial Discrimination was adopted by the United Nations General Assembly on December 21, 1965. The preamble of the Convention provides basic information relating to human rights.<sup>319</sup> The main objective of the Convention is to eliminate the racial discrimination. The State Parties are required to recommend the way in which they have adopted to observe the rights ensured under the Convention. The Committee<sup>320</sup> constituted under this Convention consists of eight experts of high moral standing and impartiality elected by the States parties from among their nationals, they are required to work in their personal capacity, and must consider the equitable

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<sup>316</sup> Declaration on the Rights of Persons Belonging to National or Ethnic Religious and Linguistic Minorities, *available at*: <https://www.ohchr.org/en/professionalinterest/pages/minorities.aspx> (last visited on July 23, 2021).

<sup>317</sup> Declaration on the Rights of Persons Belonging to National or Ethnic Religious and Linguistic Minorities, art.1

<sup>318</sup> *Supra* note at 309.

<sup>319</sup> The Preamble provides that all human beings are born free and equal in dignity and rights and that everyone is entitled to all the rights and freedoms. International Convention on the Elimination of All Forms of Racial Discrimination, *available at*: <https://ruralindiaonline.org/en/library/resource/international-convention-on-the-elimination-of-all-forms-of-racial-discrimination/> (last visited on July 27, 2021).

<sup>320</sup> International Convention on the Elimination of All Forms of Racial Discrimination, art.8

geographical distribution and different forms of civilizations that they represent together with the legal principal systems they follow.<sup>321</sup> The Committee has played an important role in acknowledging the rights of the indigenous peoples. The Committee has many times addressed issues of indigenous people and the various discrimination faced by them. The general recommendation XXIII (1997) on indigenous people, provides that the states to: <sup>322</sup> guarantee equal rights to the indigenous peoples and to see that they effectively participate in public life. The States are required to see that the prior informed consent of the indigenous people is availed especially when such decisions are directly or indirectly related to them. Recommendations were made to acknowledge the rights of indigenous peoples over their communal lands, territories, resources and their rights to develop, control and use such resources available to them and to take effective measures when their rights to lands and territories that they traditionally inhabited is infringed.<sup>323</sup>

### **3.6.7. Convention on the Rights of the Child and the Committee on the Rights of the Child, 1989**

The Convention on the Rights of the Child, 1989 is the only United Nations human rights treaty that provides specific protection to the rights of indigenous children. The Convention under Article 30 provides that the rights of children belonging to a minority with ethnic, linguistic and religious minorities<sup>324</sup>. Article 29.1 provides their rights to education must also be

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<sup>321</sup> *Id.*, at art.8.

<sup>322</sup> International Convention on the Elimination of All Forms of Racial Discrimination, *available at*: <https://www.ohchr.org/en/professionalinterest/pages/cerd.aspx> (last visited on February 21, 2020).

<sup>323</sup> Committee on the elimination of Racial Discrimination, General Recommendation 23, *available at*: <http://hrlibrary.umn.edu/gencomm/genrexiii.htm> (last visited on February 20, 2020).

<sup>324</sup> International Convention on the Elimination of All Forms of Racial Discrimination and the Committee on the Elimination of Racial Discrimination, 1965, art.30

recognised and protected as it would lead to building<sup>325</sup>friendship among all peoples like, ethnic, national and religious groups and persons of indigenous origin.<sup>326</sup> The Committee on the rights of the child recommended the Indigenous Declaration and ILO Convention No. 169 to include that the rights to enjoy one's culture shall also include the way of life that is the close connection that they have with territory and the resources that are available to them. The general comment No11 (2009) by the Committee provided that the States must adopt the rights-based approach to deal with indigenous children. It also identified that for protection of the children the provisions laid down under other international instruments such as ILO Convention No. 169 and the United Nations Declaration on the Rights of Indigenous Peoples must be applied. The Committee also suggests that the collective element of indigenous peoples' cultures must be upheld and other measures including legislative and policies must be framed to provide protection to indigenous children.<sup>327</sup>

### **3.6.8. Rio Declaration of Environment and Development and Agenda 21, 1992**

The United Nations during the Conference on Environment and Development held in Rio de Janeiro, 1992 approved the Rio Declaration of Environment and development. In June 1972 the Declaration of the United Nations Conference on the Human Environment, was adopted at Stockholm. A set of principles were adopted to guide the development of the environment. The Declaration also provided provision regarding the rights of people to development and their

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<sup>325</sup>Convention on the Rights of the Child and the Committee on the rights of the Child, 1989, art.29 (1)1.

<sup>326</sup> Cynthia Price Cohen, "United Nations: Convention on the Rights of the Child", 28*ILM*1448, (1989).

<sup>327</sup> Convention on the Rights of the Child, *available at*:

<http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPrICAqhKb7yhsqlkirKQZLK2M58RF%2F5F0vHflzasSO0EEdqWmq9j7BREhPNv8rsqw5s1P9yZnbT0%2BVctG7gTjfUoMHKWMhfzjxkzJvW8MwfhHmnb02XKphT> (last visited on February 21, 2020).

duty toward the protection of the environment.<sup>328</sup> The Declaration gave importance to the environment and also stated that it was the only way through which long-term economic progress could be achieved. To make an impact on the condition of the environment it is essential that There is equitable global partnership between the people, the government and the key sectors of societies. This Declaration was important because it highlighted the relationship between the indigenous peoples and their rights related to the environment. 27 principles were established under the Rio Declaration for providing a guide for sustainable development around the world.<sup>329</sup> The Conference, or the Earth Summits are regarded to have acknowledged the traditional knowledge and the important role played by the indigenous peoples and the communities in managing and developing the environment.<sup>330</sup> The United Nations Conference on Environment and Development introduced the revolutionary Agenda 21. Agenda 21 provided a practical method to implement the sustainable development policies at the local and national level. It provides a complete blueprint that can be adopted globally, nationally and locally by various organizations. The Earth Summit produced Agenda 21 and the Rio Declaration, and other international law instruments such as the Forest Principles, the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC). Furthermore, the Rio Declaration also caused the creation of the United Nations Commission on Sustainable Development (CSD), the United Nations Convention to Combat Desertification and the Straddling Fish Stocks Agreement. It marks an important event in the history of the United Nations as it managed to provide an international law, both hard and soft for the protection and improvement of the environment.<sup>331</sup>

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<sup>328</sup> Rio Declaration on Environment and Development, 1992, *available at*: <https://culturalrights.net/en/documentos.php?c=18&p=195> (last visited on February 17, 2020).

<sup>329</sup> Review of implementation of Agenda 21 and Rio Principles, *available at*: [https://sustainabledevelopment.un.org/content/dsd/dsd\\_sd21st/21\\_pdf/SD21\\_Study1\\_Synthesis.pdf](https://sustainabledevelopment.un.org/content/dsd/dsd_sd21st/21_pdf/SD21_Study1_Synthesis.pdf) (last visited on February 21, 2020).

<sup>330</sup> Indigenous Peoples and the Environment, *available at*: <https://www.ohchr.org/Documents/Publications/GuideIPleaflet10en.pdf> (last visited on February 17, 2020).

<sup>331</sup> *Supra* note at 319.

### 3.6.9. Convention on Biological Diversity, 1992

The United Nations Conference on Environment and Development, held in Rio de Janeiro, Brazil, in June 1992, is regarded as an important instrument as it provides provisions for the rights related to the environment and various development agendas of the indigenous peoples. The implementation of the Convention on Biological Diversity (hereafter referred to as CBD) is regarded as an important outcome of the Earth Summit. The Convention provides the relationship between the indigenous communities and the biological resources that they use. It also highlights the concept of benefits sharing that arise out of the utilization of traditional knowledge associated with biological resources, and various innovations and practices adopted to conserve biological diversity, including species diversity.<sup>332</sup> CBD is legally binding instruments and strives for international cooperation for the management, conservation and sustainable use of the world's biological resources. The main objectives of the Convention is laid down under Article 1.<sup>333</sup>

The CBD recognises the rights of indigenous peoples over their traditional lands, territories and resources. The CBD's Conference of Parties (hereafter referred to as COP) are required to respect the rights of indigenous peoples and the state parties while giving effect to the Convention must include its provisions at the national level. There are various provisions, but some of the provisions which are important to indigenous peoples are Articles 8(j), 10(c), 17.2 and 18.4 as these articles provide that the parties to the Convention must recognise the rights of indigenous communities and also to preserve and maintain their traditional knowledge. The Convention also encourages the Parties avail approval and participation of the indigenous peoples so that their knowledge, innovations and practices can be widely applied. The Article

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<sup>332</sup> Indigenous Peoples and the Environment, *available at*: <https://www.ohchr.org/Documents/Publications/GuideIPleaflet10en.pdf> (last visited on February 21, 2020).

<sup>333</sup> Convention on Biological Diversity, 1992 art.1



also lays down the importance of benefit sharing that arise out of the use of traditional knowledge, innovations and practices. The Convention uses the term “indigenous and local communities embodying traditional lifestyles” to identify the indigenous people concerned. The term is interpreted to include almost 2 billion people regarded as indigenous peoples and are still dependent upon the traditional ways of life. The term is mostly used to deal with issues relating to identification, establishment and management of protected areas. The main objectives for implementation of these articles is to acknowledge and respect rights of ownership, right to control and management and to use traditional lands, territories and resources by the indigenous peoples. The rights of the people over their lands and resources must be acknowledged and any development programmes must not be implemented without indigenous peoples’ free and informed consent. The most viable and appropriate manner for implementing the provisions of CBD is by acknowledging the indigenous ownership their free consent and management of protected areas.<sup>334</sup>

Under Article 10c, each contracting party is required to protect and encourage the traditional cultural practices that improves the conservation and sustainable use of the resources.<sup>335</sup> The protection of traditional knowledge is important for the cultural survival of indigenous communities. Hence, the article provides protection to the traditional use of various species by the indigenous communities and the need to preserve the same.<sup>336</sup>

Article 17<sup>337</sup> The Convention is concerned with exchange of information. Such information includes traditional knowledge and practices and could act as a bridge between the current

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<sup>334</sup> Leaflet No. 10: Indigenous Peoples and the Environment, *available at*: <https://www.ohchr.org/Documents/Publications/GuideIPleaflet10en.pdf> (last visited on February 21, 2020).

<sup>335</sup> The Convention on Biological Diversity, 1992, art.10 (c)

<sup>336</sup> Traditional Knowledge and Customary Sustainable Use of Biodiversity, *available at*: <https://naturaljustice.org/wp-content/uploads/2015/09/Traditional-Knowledge.pdf> (last visited on February 21, 2020).

<sup>337</sup> The Convention on Biological Diversity, 1992, art.17

knowledge. Under Article 18, a need for cooperation has been laid down between development and use of technologies including indigenous traditional technologies. The Convention acknowledges the rights of traditional knowledge holders and also recognizes traditional knowledge as a form of knowledge that must be protected and preserved as it can act as a guide in developing any new knowledge.<sup>338</sup> The COP gave importance in protecting the traditional knowledge as maintaining such knowledge or practices were essential for maintaining the cultural identities of the indigenous peoples. Therefore, COP encouraged the parties and state government to adopt effective measures to promote the conservation and protection of their identities.

### **3.6.10. Vienna Declaration and Programme of Action, 1993**

In accordance with the Charter of the United Nations, the Vienna Declaration provides that States should promote universal respect and protect all human rights and fundamental freedoms. The Governments are responsible to protect and promote human rights and fundamental freedoms as the birth right of all human beings. Every individual has the right of self-determination and they pursue any political, economic, social and cultural developments that they like.<sup>339</sup> The Declaration also provides that effective international measures must be adopted so that human rights are guaranteed. The human rights of people working in foreign countries must be safeguarded through effective legal protection. Human rights must be protected according to the human rights norms accepted at international level or as mentioned under the “Geneva Convention related to the Protection of Civilian Persons in Time of War”.

The United Nations must give utmost priority to human rights and fundamental freedoms, and

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<sup>338</sup> The Knowledge of Indigenous Peoples and Policies for Sustainable Development: Update and Trends in the Second Decade of the World’s Indigenous People, *available at*: [https://www.un.org/en/ga/69/meetings/indigenous/pdf/IASG%20Thematic%20Paper\\_%20Traditional%20Knowledge%20-%20rev1.pdf](https://www.un.org/en/ga/69/meetings/indigenous/pdf/IASG%20Thematic%20Paper_%20Traditional%20Knowledge%20-%20rev1.pdf) (last visited on February 21, 2020).

<sup>339</sup> Vienna Declaration and Programme of Action, *available at*: <https://www.ohchr.org/en/professionalinterest/pages/vienna.aspx> (last visited on February 21, 2020).

there must be international cooperation to achieve the same. Human rights must be fair and equal and the international community must strive to attain such rights globally. Irrespective of their political, economic and cultural systems, the States have a duty to protect and promote all human rights and fundamental freedoms.<sup>340</sup> The procedure of protecting and promoting human rights should be consistent with the principles of the United Nations Charter and must not violate the purposes and values of the Charter and international law. The right to development is essential for achieving various developments related to the environment as it affects both present and future generations. The benefits of scientific progress must be available to every human being. Without cooperation at the international level human rights and dignity cannot be fully protected. The World Conference on Human rights is of the opinion that the impacts of biomedical, life science and information technology on human rights can be avoided only with international cooperation. The Declarations also aim at protection and promotions of the rights of people belonging to the minorities. It provides them with various rights including the rights to enjoy their culture and to profess and practice their religion. The Declaration also recognises the importance of their language and allows them to use their language freely without any restrictions. Apart from this the rights of indigenous peoples and their contributions has been highlighted.<sup>341</sup> All the above-mentioned rights can be achieved and protected only with good coordination of the international community. The international community must commit to protect the well-being of all human beings by encouraging sustainable developments.

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<sup>340</sup> *Id.*

<sup>341</sup> The UN world conference on human rights, Vienna, June 1993, *available at*: <https://www.tandfonline.com/doi/abs/10.1080/096145249100077371?journalCode=cdip20> (last visited on February 22, 2020).

The rights of the indigenous communities to full and free participation must be guaranteed by the State. Their consent must be availed in matters that are related to them. Their rights must be acknowledged and measures must be adopted to promote and protect their rights. They are an important part of the society and States must strive to provide protection in accordance with international law. The human rights and fundamental freedoms of indigenous peoples must be safeguarded and they must have equal rights in the society. The States must see that they do not face discrimination and that their distinct identities, culture, values, diversity is recognised.<sup>342</sup>

### **3.6.11. The United Nations Declaration on the Rights of Indigenous Peoples, 2007**

On September 13, 2007 the United Nations General Assembly adopted the United Nations Declaration on the Rights of Indigenous Peoples. The main aim of the Declaration Was to acknowledge the rights of indigenous peoples. It provides complete details relating to the rights of indigenous peoples and also deliberate upon the related law and policies at international level. The draft text of the Declaration was prepared by the UN Working Group on Indigenous Peoples (hereafter referred to as WGPI). The Group followed the mandates provided by the UN Economic and Social Council.<sup>343</sup> The WGPI after drafted the final text and forwarded to the Sub-Commission on Prevention of Discrimination and Protection of Minorities in 1993, and in 1994 the Sub-Commission adopted the text of the Draft Declaration<sup>344</sup>, later on the UN approved it. Before the final adoption by the General Assembly the Commission of Human Rights constituted an open-ended inter-sessional group in 1995, to elaborate the text. The Declaration is recognised internationally but is a non-binding instrument that provides

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<sup>342</sup> Rio Declaration on Environment and Development: application and implementation, *available at*: <https://www.un.org/esa/documents/ecosoc/cn17/1997/ecn171997-8.htm> (last visited on February 23, 2020).

<sup>343</sup> ECOSOC Resolution 1982/34, 7 May 1982.

<sup>344</sup> Sub-Commission on Prevention of Discrimination and Protection of Minorities, Res. 1994/45, 26 August 1994, UN Doc. E/CN.4/ Su.2/1994/56 (1994).

provisions relating to the well-being, survival and dignity of the indigenous peoples. The UN Declaration reaffirms universal and fundamental human rights specifically applicable to the indigenous people.<sup>345</sup> There are 46 Articles and a preamble and the Declaration provides a wide range of human rights and fundamental freedoms that are for the indigenous peoples. The Preamble is the most important part of the Declaration as it covers all the sentiments and values that are important to mankind. The preamble gives an outlook of what is infused throughout the Declaration's provisions, like acknowledgement of equality of indigenous peoples, the diversity and richness of civilizations and cultures they hold. Various provisions relating to, minimum standards for the recognition, protection and promotion of their rights are also mentioned.

The Declaration is not yet adopted by all the members of the United Nations, but it acts as a guide to the member states for formulating laws and policies for the protection of the indigenous peoples. It also affords assistance to indigenous communities so that they can claim protection to their rights. There are various rights that are contained in the Declaration and under international law and policy.<sup>346</sup>

The various rights and freedoms of indigenous peoples like freedom from discrimination, right to self-determination, equality, participation matters related to State and nationality has been guaranteed under the Declaration.<sup>347</sup> Article 7-10 of the Declaration lays down provisions related to cultural integrity, identity, various threats to the survival of indigenous peoples etc. Apart from this there are provisions that discusses the spiritual, linguistic and cultural identity of indigenous peoples;<sup>348</sup> Similarly the education, information and labour rights have been laid

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<sup>345</sup> Francesca Panzironi, *Indigenous Peoples' Right to Self-determination and Development Policy*, available at: <https://core.ac.uk/download/pdf/41230579.pdf> (last visited on April 8, 2021).

<sup>346</sup> The UN Declaration on the Rights of Indigenous Peoples in the Context of Human Rights, available at: <https://academic.oup.com/ejil/article/22/1/141/436712> (last visited on February 22, 2020).

<sup>347</sup> The UN Declaration on the Rights of Indigenous Peoples, 2007, arts.1-6.

<sup>348</sup> The UN Declaration on the Rights of Indigenous Peoples, 2007, arts.11-13.

down.<sup>349</sup> Article 18-24 provides the rights of the indigenous communities to participate in development of their rights and provides protection to the needs of the youth, elderly, women and children in matters related to health, economic and social rights;<sup>350</sup> land and resources rights have been laid down under Article 25-32 of the Declaration.<sup>351</sup> They also have the right to adopt measures for implementation of provisions that are laid down under the Declaration.<sup>352</sup>

The rights of indigenous people to self-determination is the main aim of the UN Declaration and all indigenous rights laid down in it. Some of the rights that are recognised under this Declaration are discussed in detail.

### **3.6.11.a. Self-determination**

Under the Declaration the important issue related to self-determination has been affirmed to the indigenous peoples. The right to self-determination is valuable to the indigenous peoples. All rights under the Declaration are indivisible and interrelated. Under Article 4<sup>353</sup> the Declaration provides the rights of indigenous peoples to adopt self-government for promotion of their rights. Similarly, under Article 34 of the Declaration they have the right to autonomy and are capable of promoting, developing and preserving their institutional structures. They have rights to preserve their distinctive customs, spirituality, traditions, procedures, practices.

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<sup>349</sup> The UN Declaration on the Rights of Indigenous Peoples, 2007, arts.14-17

<sup>350</sup> The UN Declaration on the Rights of Indigenous Peoples, 2007, arts.18-24.

<sup>351</sup> UN Declaration on the Rights of Indigenous Peoples, 2007 arts.25-32.

<sup>352</sup> UN Declaration on the Rights of Indigenous Peoples, 2007arts.37-46.

<sup>353</sup> Article 4 of the UN Declaration provides that “indigenous peoples, in exercising their right to self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions.”

If the matters are connected to their land, territories and resources then their free and informed consent must be availed.<sup>354</sup>

### **3.6.11.b. Rights to lands, territories and resources**

The other rights guaranteed under the UN Declaration are the rights of indigenous peoples upon their lands, territories and resources, that they owned for generations but now controlled by others. Their rights must be protected because they live in close contact with the forest and they depend upon the land that they reside. Their rights over the land, territories and resources are guaranteed by the existing human rights laws by the United Nations Human rights treaty and regional human rights mechanisms. Article 26 (1)<sup>355</sup> the Declaration provides provisions relating to the rights of indigenous peoples over their lands. The land, territories and resources that they own under the indigenous customary conceptions of ownerships is provided under Article 26 (2). Under Article 26 (3) the states are required to give legal recognition and also protect the lands and the resources of the indigenous communities.<sup>356</sup> Under Article 27 the States must establish and adopt measures to acknowledge and protect the indigenous peoples' rights in relation to their lands, territories and resources.<sup>357</sup>

### **3.6.11.c. Economic, social and cultural rights**

The Declaration guarantees the economic, social and cultural rights. The Economic, social and Cultural rights include rights to health, sanitation, social security, education, employment, housing etc. Article 3 of the Declaration provides that the indigenous peoples are free to

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<sup>354</sup> United Nations Declaration on the Rights of Indigenous Peoples, *available at*: [https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP\\_E\\_web.pdf](https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf) (last visited on February 24, 2020).

<sup>355</sup> The United Nations Declaration on the Rights of Indigenous Peoples, art.26.1

<sup>356</sup> The UN Declaration, art.26 (3)

<sup>357</sup> The UNDRIP and the legal significance of the right of indigenous peoples to self-determination: a human rights approach with a multidimensional perspective, *available at*: <https://www.tandfonline.com/doi/full/10.1080/13642987.2019.1585345?src=recsys> (last visited on February 24, 2020).

determine economic, social and cultural rights. Indigenous peoples have a distinctive culture that often defines their unique features. Under the Declaration various provisions are laid down to protect their cultural distinctiveness and also protection against any discrimination and adverse treatment.<sup>358</sup>

The right to economic, social and cultural rights also includes the right to protect their own culture from being assimilated or distorted. They have freedom to practice and revitalize their cultural traditions and customs. Indigenous peoples have their rights to take initiatives to develop, protect or control their traditional knowledge, rich cultural heritage and vast traditional cultural expressions and no one can restrict them from teaching their customs.

#### **3.6.11.d Collective rights**

Indigenous people's rights are collective in nature. Prior to the Declaration, there was no international human right system that acknowledged the concept of rights vested in groups. More focus was given to individual rights and opinion was made that it was sufficient to provide protection to individual rights as it would ensure adequate protection and promotion to rights of collective dimension, such as the right to culture. The Collective rights of the indigenous peoples were recognised with the adoption of the Declaration and hence, the collective rights must be acknowledged and protected.<sup>359</sup>

#### **3.6.11.e. Equality and non-discrimination**

The Declaration strives to achieve equality and non- discrimination to the indigenous peoples. The rights of indigenous peoples are laid down under Article 1 and 2 of the Declaration.<sup>360</sup> The

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<sup>358</sup> The Protection of Economic, Social and Cultural Rights Post-Conflict, *available at*: [https://www2.ohchr.org/english/issues/women/docs/Paper\\_Protection\\_ESCR.pdf](https://www2.ohchr.org/english/issues/women/docs/Paper_Protection_ESCR.pdf) (last visited on February 24, 2020).

<sup>359</sup> Indigenous Peoples Human Rights Defenders Filed Handbook on Human Rights Documentation and Advocacy, *available at*: <https://www.iwgia.org/images/handbookhrdip-aipp.pdf> (last visited on February 24, 2020).

<sup>360</sup> The United Nations Declaration on Rights of Indigenous Peoples, art.1,2



concept of equality and non-discrimination was included in the Declaration as the history provided with numerous instances where the indigenous peoples had suffered discrimination. The rights of indigenous peoples over their land, resources must be acknowledged and protected as the property of non-indigenous peoples.<sup>361</sup>

The United Nations Declaration on Rights of Indigenous Peoples is one of the landmark human rights instruments, as it was framed by a standard-setting process and the civil society participated actively.

The Declaration is different from others because it recognises the collective rights and sets up a standard in the human rights law. The Declaration recognises the collective rights of the indigenous peoples, which the previous declarations failed to uphold. The UDHR and the UN Charter mentions human rights and individual rights but the collective rights are not highlighted, but the UN Declaration is one of the first legal instruments which acknowledges collective or community rights. The Working Group and the Human Rights Commissions' Working Group held many debates that considered the issue of balancing the individual rights and collective rights. The relation between states and indigenous has been improved after the establishment of the UN Declaration.

Apart from recognizing the rights of the indigenous peoples' the Declaration has played an important role in raising awareness by carrying out discussions, debates and controversies. It is also important because the indigenous peoples, their representatives or NGOs have actively participated in drafting the provisions.

### **3.6.12. Food and Agriculture Organization, 1945**

Food and Agriculture Organisation (hereafter referred to as FAO) is a specialized agency of the United Nations whose primary role is to promote greater food security and reduce poverty.

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<sup>361</sup> Case of the Mayagna (Sumo) Awas Tingni Community v. Nicaragua; Case of the Sawhoyamaya Indigenous Community v. Paraguay, Series C, No.146, Judgment of 29 March 2006.

These objectives according to FAO can be achieved only if there is involvement of society. Apart from this the organization also aims to improve the productivity in the agriculture sector, improve the nutrition level, and to contribute to the growth of the world economy and betterment of lives of rural populations who are dependent on agriculture. The “Indigenous and Tribal Peoples” is a policy framed by FAO to ensure respect and promote indigenous issues in relevant work. The policy of FAO aims at removal of poverty, hunger and also to promote indigenous peoples’ issues. A close collaboration must be made between indigenous communities and the indigenous knowledge, cultures and traditional practices must be acknowledged as it contributes to sustainable and equitable development. As a growing concern is there relating to a specific framework to ensure the needs and concerns of indigenous peoples, the FAO policy provides an answer to it.<sup>362</sup> The main objective of adoption of this policy was to give recognition to the distinctiveness of their culture and a need to recognise their rights internationally. The policy aims to work at various objectives that are related to indigenous peoples benefits. Right to self-determination is one of the important rights that is related to indigenous peoples, and this right has been guaranteed under various UN Organizations. The people have the right to self-determination and they are free to choose their economic, social and cultural development that would affect them. The indigenous peoples have numerous rights and the states must ensure that their traditional ways or methods are recognised and protected. The states can also strengthen their rights by providing protection to the various activities such as hunting, fishing, gathering etc., and strengthening traditional food

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<sup>362</sup> FAO Policy on Indigenous and Tribal Peoples, *available at*: [http://www.fao.org/fileadmin/user\\_upload/newsroom/docs/FAO\\_policy.pdf](http://www.fao.org/fileadmin/user_upload/newsroom/docs/FAO_policy.pdf) (last visited on February 26, 2020).

systems. The right to food is a very important right as it determines the food and nutrition security policies.<sup>363</sup>

The right to food acts as a tool that aids in the improvement of food security of indigenous peoples and also addresses the problems that are concerned with food insecurity and hunger. Various issues like the environmental degradation, politico-economic marginalization and development activities have a direct impact on the indigenous peoples. This makes them vulnerable to multiple adversities, they must make free decisions to incur benefits from development that are affecting them. Therefore, legal rights that are unambiguous must be made for the survival of indigenous livelihood. FAO has a significant role to play in forming appropriate conservation measures for agriculture.<sup>364</sup>

### **3.6.13. Report of the International Conference on Population and Development (1990)**

The Conference was held under the guidance of the United Nations, the main objective was to promote sustainable economic growth in the context of sustainable development. The principles laid down under the Conference provided the rights and freedoms set forth in the Universal Declaration of Human Rights<sup>365</sup> laid that every human is free and has equal rights and freedoms. The right to development was recognised as a universal and inalienable right. It also mentioned gender equality and equity and the empowerment of women. Under Paragraph 6.21, the Indigenous peoples were recognised to have a distinct and important perspective on population and development relationships. as the indigenous peoples have been facing numerous issues the various objectives for the protection was laid down under Paragraph

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<sup>363</sup> The Right to Food, *available at*: <http://www.fao.org/right-to-food/resources/resources-detail/en/c/49285/> (last visited on February 26, 2020).

<sup>364</sup> FAO Policy on Indigenous and Tribal Peoples

<sup>365</sup> Report of the International Conference on Population and Development, *available at*: [https://www.unfpa.org/sites/default/files/event-pdf/icpd\\_eng\\_2.pdf](https://www.unfpa.org/sites/default/files/event-pdf/icpd_eng_2.pdf) (last visited on February 26, 2021).

6.24.<sup>366</sup> The Conference incorporated the perspectives and needs of indigenous communities. Such initiatives that were necessary for their development were to be adopted. Paragraph 6.27 provides that the indigenous communities must have rights to manage their land, and to protect the natural resources and ecosystems.<sup>367</sup>

### **3.6.14. WIPO-The IGC on Intellectual Property Genetic Resources and Traditional Knowledge, 2014.**

The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) was established in September 2000. The Committee acts as a forum where the WIPO members discuss matters concerned with the use of the genetic resources and the benefits that arise out of such use, they also highlight the issue relating to the protection of traditional knowledge.<sup>368</sup> In their 59<sup>th</sup> series of Meetings held on September 30 to October 9, 2019, the committee discussed how they will work on ensuring balance and efficient security to the available genetic resources, and the traditional knowledge and traditional cultural expression while finalizing an agreement on international legal instruments. The committee also encourages the member states to work on the Draft International Legal; Instrument relating to Intellectual Property, Genetic Resource and Traditional Knowledge Associated with Genetic Resources.<sup>369</sup>

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<sup>366</sup> *Id*

<sup>367</sup> Study Guide: The Rights of Indigenous Peoples *available at*: <http://hrlibrary.umn.edu/edumat/studyguides/indigenous.html> (last visited on February 26, 2021).

<sup>368</sup> Intergovernmental Committee (IGC), *available at*: <https://www.wipo.int/tk/en/igc/> (last visited on May 22, 2021).

<sup>369</sup> Assemblies of the Member States of WIPO, *available at*: [https://www.wipo.int/export/sites/www/tk/en/igc/pdf/igc\\_mandate\\_2020-2021.pdf](https://www.wipo.int/export/sites/www/tk/en/igc/pdf/igc_mandate_2020-2021.pdf) (last visited on May 22, 2021).

### **3.7. UNITED NATIONS ORGANS FOR INDIGENOUS PEOPLES' HUMAN RIGHTS**

There are different UN Organs that have provided provision for the protection of Indigenous Peoples' Human Rights. They are discussed in the following paragraphs.

#### **3.7.1. UN working group on Indigenous Population**

In May 1982, the Economic and Social Council authorized the Sub-commission on Prevention of Discrimination and Protection of Minorities to establish the Working Group on Indigenous Populations. The working group was to review current developments affecting the rights of indigenous populations.<sup>370</sup> It was like a forum where the indigenous peoples could present their grievances. But, as it didn't have adjudicatory power not much could be achieved. It was exclusively concerned with matters relating to human rights of Indigenous Peoples. The Working groups represented the grievances and studied various issues that were affecting the rights of Indigenous Peoples.<sup>371</sup>

#### **3.7.2. UN permanent Forum on Indigenous Issues**

The United Nations Permanent Forum on Indigenous Issues (hereafter referred to as UNPFII) was framed to be an advisory body to the Economic and Social Council. The main aim of forming this body was to look into matters concerning the economic, social, cultural development, environment, education, health and human rights of the indigenous peoples.<sup>372</sup> The Forum consists of eight Indigenous experts, and meets once a year. In its 18<sup>th</sup> Session the

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<sup>370</sup> Douglas Sanders, "The UN Working Group on Indigenous Populations", *11JSTOR*4-6 (1989).

<sup>371</sup> Study Guide: The Rights of Indigenous Peoples, *available at*: <http://hrlibrary.umn.edu/edumat/studyguides/indigenous.html> (last visited on February 26, 2021).

<sup>372</sup> United Nations Permanent Forum on Indigenous Issues, *available at*: [https://www.ilo.org/global/topics/indigenous-tribal/news/WCMS\\_674594/lang--en/index.htm](https://www.ilo.org/global/topics/indigenous-tribal/news/WCMS_674594/lang--en/index.htm) (last visited on February 26, 2021).

United Nations Permanent Forum on Indigenous Issues conducted a discussion related to the ‘Traditional Knowledge: Generation, transmission and protection’.<sup>373</sup>

The International Labour Organization participates in various sessions of UNPFII and has hosted various sessions so that they can interact with indigenous peoples, governments, non-governmental organizations and UN agencies.<sup>374</sup> The Forum has and is playing an important role in highlighting the recent issues that are faced by the indigenous peoples and then provides expert advice and recommendations to the Economic and Social Council.<sup>375</sup>

### **3.7.3. UN Special Rapporteur on the Situation of the Human Rights and fundamental freedoms of indigenous people.**

In 2001 the Commission on Human Rights appointed a Special Rapporteur on the rights of indigenous peoples. The aim was to uphold the principles of good practices. It also included discussion of new laws, government programs and productive agreements between indigenous people and states. They also aimed to recommend and to prevent and provide remedies to indigenous peoples in times of violation of their rights, and to report on the human rights situations of indigenous peoples. The Commission on Human Rights and the Human Rights Council<sup>376</sup> renewed the mandates of the Special Rapporteur in 2007.

### **3.7.4. Permanent Forum on Indigenous Issues Eighteenth Session, 1<sup>st</sup> and 2<sup>nd</sup> Meeting**

There is no denial to the fact that TK constitutes the identity, languages, rich heritage, tradition and culture of the indigenous peoples and hence, it is important to protect the same for the

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<sup>373</sup> UNPFII Eighteenth Session: 22 April-3 May 2019, *available at*: <https://www.un.org/development/desa/indigenouspeoples/unpfii-sessions-2/18-2.html> (last visited on February 26, 2021).

<sup>374</sup> *Supra* note at 365.

<sup>375</sup> *Supra* note at 371.

<sup>376</sup> Special Rapporteur on the Rights of indigenous peoples, *available at*: <https://www.ohchr.org/en/issues/ipeoples/srindigenouspeoples/pages/sripeoplesindex.aspx> (last visited on February 26, 2021).

continuation generation. On 22nd April 2019 the Permanent Forum on Indigenous Issues provided the importance of traditional knowledge. The main focus was laid on Indigenous Peoples Traditional Knowledge and transmission and protection. The session was chaired by Anne Nuorgam<sup>377</sup> according to her, the indigenous peoples' educational practices, languages, environmental conservation and management must be acknowledged and respected at national and international level.<sup>378</sup> She also emphasized on the importance of traditional knowledge and the need for education on their own languages. According to her, it is essential to mention about the stories, songs, dances, cravings, paintings and performance of indigenous peoples as it is the medium through which their traditional knowledge can be transmitted. Maria Fernanda Espinosa, General Assembly President too stressed on the importance of traditional knowledge and that such knowledge must be transferred across generations. She also mentioned that the knowledge that the indigenous people have about medicine, meteorology, agriculture and various other areas are at risk of disappearing or being mis-utilised. According to her, such knowledge can be protected only if indigenous peoples come together and their rights are strengthened under the provisions of the United Nations.<sup>379</sup> Among other issues, she stressed on implementation of gaps and the need to pay the debt to indigenous peoples, and to address the issues related to health, education, etc. Similarly, the problems faced by the indigenous women's must be taken into notice, as only if they are given respect discrimination can be done away with, and for these various programs, policies were to be developed for empowering the indigenous women. The Vice-President of the Economic and Social Council, Valentin Rybakov, provided that the role of the indigenous knowledge in sustainable development must

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<sup>377</sup> Chair of United Nations Permanent Forum on Indigenous Issues 2019-2020.

<sup>378</sup> UN, Economic and Social Council, Permanent Forum on Indigenous Issues, *available at*: <https://www.un.org/press/en/2019/hr5431.doc.htm> (last visited on April 15, 2021).

<sup>379</sup> *Id.*

be acknowledged. According to him, collaboration with indigenous peoples could help in achieving the goals of sustainable development.<sup>380</sup>

In the session various representatives from different countries highlighted their needs and challenges. The most important issue was recognition of their language and introduction of education in their language. Lack of strong foundational level leads to failure as children aren't able to speak their language. Another challenge faced by the indigenous communities in many places is failure to keep up with the digital revolution, as most of the digital tools do not include their language and as a result of it they fail to understand new technological tools. Their language is sacred and it links to their rich heritage.<sup>381</sup> It is essential that the right to language and land is recognised, and children must study and have access to education in their native language. Without protection of their language they stress that it will be difficult to protect the traditional knowledge and cultural diversity. According to them, teaching their children in their language helps to maintain community culture and reduces school drop-outs.<sup>382</sup>

They discussed various gaps that were essential to validate the objectives of the Declaration on the Rights of Indigenous Peoples. The importance of Traditional Knowledge was also highlighted in the Session, as the accumulated knowledge can help in developing various medicinal, agricultural and various other resources.<sup>383</sup>

Major importance was given to the transmission of traditional knowledge and culture. Such transmission must have access to traditional territories of indigenous peoples, and recognise the rights to customary sustainable use of natural resources and the understanding of

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<sup>380</sup> Achieving Gender Equity, Women's Empowerment and Strengthening Development Cooperation, *available at*: [https://www.un.org/en/ecosoc/docs/pdfs/10-50143\\_\(e\)\\_\(desa\)dialogues\\_ecosoc\\_achieving\\_gender\\_equality\\_women\\_empowerment.pdf](https://www.un.org/en/ecosoc/docs/pdfs/10-50143_(e)_(desa)dialogues_ecosoc_achieving_gender_equality_women_empowerment.pdf) (last visited on October 27, 2021).

<sup>381</sup> Right to Education: Situation around the world, *available at*: <https://www.humanium.org/en/right-to-education/> (last visited on October 27, 2021).

<sup>382</sup> Indigenous People's Traditional Knowledge Must Be Preserved, Valued Globally, Speakers Stress as Permanent Forum Opens Annual Session, *available at*: <https://www.un.org/press/en/2019/hr5431.doc.htm> (last visited on October 27, 2021).

<sup>383</sup> *Id.*



indigenous languages. Language is very essential for the preservation of traditional knowledge of indigenous people. The role of indigenous peoples in safeguarding the available biodiversity cannot be denied and to protect such knowledge the language must be preserved as well. Hence, there are various initiatives that encourage active participation from the indigenous peoples for the global biodiversity framework. For maintaining a link between biological and cultural diversity various suggestions for the establishment of an international alliance between nature and culture were provided.<sup>384</sup>

### **3.8. MEASURES FOR PROTECTION OF INDIGENOUS PEOPLES RIGHTS IN OTHER COUNTRIES**

Indigenous peoples are spread all over the world and the united efforts are being made at international and national level to recognise their rights and to provide protection to them.

There are many countries who have implemented legislations in favour of them. In the Philippines, the Indigenous Peoples Rights Act<sup>385</sup>, provides that the Government cannot issue licenses or permits to exploit the natural resources unless a procedure is followed and the National Commission on Indigenous peoples have issued a certificate for such use.<sup>386</sup> The main aim of these provisions is to give the power of granting approval to the indigenous peoples, as their participation is important.<sup>387</sup> The courts in Malaysia and Indonesia have recognised the indigenous peoples customary rights to land and natural resources. They have followed such customary rules and are bound by the same, recognizing their customary laws helps to

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<sup>384</sup> *Id.* at 375.

<sup>385</sup> Republic Law 8371, or the Indigenous Peoples Rights Act, 1997.

<sup>386</sup> Indigenous Peoples in Philippines, *available at*: <https://www.iwgia.org/en/philippines.html> (last visited on September 23, 2020).

<sup>387</sup> The rights of indigenous peoples in Asia, *available at*: [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms\\_545484.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms_545484.pdf) (last visited on September 22, 2020).

understand their rights and needs properly. But only few countries recognise their customary laws.

Apart from approval and active participation there are countries who have established national legislations that recognise the rights of indigenous peoples to establish and manage educational institutions. As their language is different from others, there are many drop outs particularly after primary education level for indigenous boys and girls. Hence, in Nepal and the Philippines, they have recognised the indigenous people's rights to establish and manage educational institutions so that the literacy rate can be improved. Similarly, for protection and improvement of the health of indigenous women many initiatives have been undertaken, for example, Cambodian Government established "National Social Protection Strategy", under this various policy are made that are especially for the improvement of the indigenous peoples, they are recognised as a group that requires special attention. In Vietnam, special health programmes targeting ethnic minorities have been devised.<sup>388</sup>

The American Declaration on the Rights of Indigenous Peoples was adopted on June 15, 2016 by the Organisation of American States (hereafter referred to as an OAS) after 30 years of advocacy and negotiation.<sup>389</sup> The Declaration covers the indigenous peoples of different countries. The Declaration also includes provisions to address the situation of indigenous peoples in the Americas, and the people living in voluntary isolation are also covered under the Declaration. Article VII of the Declaration provides that provision related to protection of indigenous children and women.<sup>390</sup> It is suggested by many that this Declaration has the quality of becoming one of the significant mechanisms of the Inter-American Human Rights System. To make it more effective the Centre hosted preparatory meetings ahead of the negotiations

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<sup>388</sup> *Id.*

<sup>389</sup> The American Declaration on the Rights of Indigenous Peoples, *available at*: <https://indianlaw.org/adrip/home> (last visited on 16 April, 2021).

<sup>390</sup> The American Declaration on the Rights of Indigenous Peoples, 2016, Part.VII

with the indigenous peoples from the Americas, and developed proposals and strategies for their benefits. The interpretation of the Declaration needs to be carried out by all the other Commission like the Inter-American Commission on Human Rights and the Inter-American Court of Human Rights, the American Convention on Human Rights, the main regional human rights treaty, and the American Declaration of Rights and Duties of Man.

China has more than 55 peoples of ethnic minorities, and the Law of the People's Republic of China on Regional National Autonomy plays an important role in providing the rights to the ethnic minorities. As the term indigenous peoples is not recognised in China so, the law itself provides the establishment of ethnic autonomous regions and also the establishment of their own local administrative government which allows them to practice their own language and culture.<sup>391</sup>

In Brazil the constitution itself provides protection to the rights of indigenous peoples. The indigenous peoples of Brazil have faced issues related to threats to their land use, management of their lands etc., but such issues have not been checked properly. The continuous legal and political incidents concerning the rights of indigenous has led to failure on the part of administrations to fulfil the assurances provided by the government to the indigenous peoples. Brazil has adopted various provisions and endorsed numerous international human rights instruments and treaties to promote protection of the indigenous peoples. A project was introduced in Brazil to bring attention to international instruments and the main aim of the project was to make the government acknowledge the rights of the indigenous peoples and to provide protection to their rights and territories.<sup>392</sup>

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<sup>391</sup> IWGIA, China, *available at*: <https://www.iwgia.org/en/china> (last visited on 16 April 2021).

<sup>392</sup> Indigenous Peoples in Brazil and the Amazon, *available at*: <https://indianlaw.org/brazil> (last visited on 16 April, 2021).

The European Union also upholds the values of respecting human rights of every individual and it includes the rights of persons belonging to minorities. The main documents on indigenous peoples are the Council Resolution on Indigenous Peoples within the Framework of the Development Cooperation of the Community and Member States, and the Council Conclusions of November 18, 2002, on Indigenous Peoples.<sup>393</sup> Main stress of the European Union projects is on the full participation and to see that consent of indigenous peoples is availed freely. The European Union fully supported the adoption of the United Nation Declaration on the Rights of Indigenous Peoples in 2007.<sup>394</sup> Hence, various countries have adopted measures to provide protection to the indigenous peoples. They understand the importance of protection, and thus applied effective measures that can acknowledge and protect the rights and identity of the indigenous peoples living in the country.

## CONCLUSION

There is no doubt that various initiatives have been adopted, established for protection of indigenous peoples, yet there are instances, when they have been victims of various activities. Even at the national level many promotions have been made for development of indigenous peoples, yet there exists many challenges and gaps. There exists an imbalance between individual and collective rights and many governments have raised the concern for the same.<sup>395</sup> Many indigenous representatives are of the opinion that the rights provided for the protection of Indigenous Peoples under the UN Declaration are not supplementary to the right to self-

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<sup>393</sup> Protection of Indigenous Heritage: European Union, *available at*: <https://www.loc.gov/law/help/indigenous-heritage/eu.php> (last visited on 16 April 2021).

<sup>394</sup> Council of the European Union, Council Conclusions on Indigenous Peoples, *available at*: <http://data.consilium.europa.eu/doc/document/ST-8814-2017-INIT/en/pdf> (last visited on 16 April, 2021).

<sup>395</sup> Intervention of the representative of the Netherlands, UN Doc. E/CN.4/1997/102, para. 109. See also, Douglas Sanders, 'The Legacy of Deskaheh: Indigenous Peoples as International Actors' in Cynthia Price Cohen (ed), *The Human Rights of Indigenous Peoples* (Ardsley, N.Y.: Transnational Publishers, 1998) 73, 85; Sarah Pritchard, 'Working Group on Indigenous Populations: Mandate, Standard-setting Activities and Future Perspectives' in Sarah Pritchard (ed), *Indigenous Peoples, the United Nations and Human Rights* (London: Zed Books, 1998).

determination, which leads to limitations of their rights.<sup>396</sup> For them the right to self-determination is most important one and if such rights aren't protected they may suffer discrimination and injustice.

There is a constant struggle by the Indigenous peoples for determining their political status and to choose developments that could affect them including economic, social and cultural development. And various international instruments have affirmed their collective rights and given a distinct recognition. Though their rights have been discussed, debated on many international, national levels there still exist challenges. Traditional indigenous land, territories and resources are surrounded by growing tensions and rising violence. Their right to land is infringed in many cases, they lose control over their resources and most of the time such issues aren't discussed. Apart from this indigenous women and children face various other violence's. They play an important role in transmission of their culture, tradition etc., and it is necessary that their identity and their rights are recognised and respected. For this national, regional and international organization must coordinate. Only if their rights are protected can they fully enjoy all the declarations, conventions that are framed.

Their lands are stolen and they are forcefully relocated. Many indigenous peoples protest that their lands are leased by mining and real estate's developers and due to this they lose their land and the resources that they freely use. There is a need to adopt measures to foster unity among different population groups so that effective strategies can be considered to prevent violence faced by the indigenous peoples. Similarly, comprehensive implementation of their rights must be promoted together with establishment of institutional and policy framework. Both at national and international level, measures must be adopted to promote equality and efforts must be taken to prevent and resolve violence.

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<sup>396</sup> UN Doc.E/CN.4/1997/102, para.224.

## CHAPTER FOUR

### COMPARATIVE STUDY OF CBD AND TRIPS WITH REGARDS TO PROTECTION OF MEDICINAL BIODIVERSITY AND RIGHTS OF INDIGENOUS COMMUNITIES

#### 4.1. INTRODUCTION

The two important international instruments i.e. Convention on Biological Diversity (hereafter referred to as CBD) and Trade Related Aspects on Intellectual Property Rights (hereafter referred to as TRIPs) is a result of prolonged debates and discussions. Both the instruments are adhered by more than 130 countries, and they offer protection to different areas. CBD provides protection to biological resources and community rights of a country, whereas TRIPs provides a minimum standard of protection for intellectual property rights and strives for protection of private rights.<sup>397</sup> In 1993 the emerging importance of conservation and sustainable use of biodiversity led the global comity of nations to confirm a major international instrument, i.e. CBD. The advent of TRIPs agreement led to private rights being awarded to almost every area from invention including biotechnological discoveries.<sup>398</sup> The two major instruments will be discussed in detail in the following paragraphs.

#### 4.2 HISTORY OF CBD AND TRIPS

##### 4.2.i Convention on Biological Diversity, 1992

The biological resources that are available to humanity are vital for economic and social development hence, there was a growing awareness that biological diversity is a valuable and precious asset that can help both the present and future generations and there was a need to

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<sup>397</sup> WIPO-UNEP Study on the Role of Intellectual Property Rights in the Sharing of Benefits Arising from the use of Biological Resources and Associated Traditional Knowledge, *available at*: [https://www.wipo.int/edocs/pubdocs/en/tk/769/wipo\\_pub\\_769.pdf](https://www.wipo.int/edocs/pubdocs/en/tk/769/wipo_pub_769.pdf) (last visited on June 1, 2019).

<sup>398</sup> TRIPs versus CBD, *available at*: <https://www.grain.org/entries/20-trips-versus-cbd> (last visited on June 1, 2019).

protect the same, as the threat to species and ecosystem was increasing at an alarming rate.<sup>399</sup> Human beings use the natural resources sustainably and conversely as it is essential for both present and future. The need for an international agreement was an important agenda for many years but the international agreements previously gave more emphasis on putting a control on excess exploitation of specific species only.<sup>400</sup> With numerous development projects leading to deforestation there was a need to come up with an international agreement for protection of biodiversity. First attempt was made at the UN Conference on Human Environment held in Stockholm in 1972 where biodiversity conservation was given priority for the first time.<sup>401</sup> In 1973 the Action Plan in Programme Development and Priorities was adopted. At the first session the conservation of natural resources, wildlife was given priority. To give importance to conservation at international level various instruments were adopted like the Convention on Wetlands (1971), the World Heritage Convention (1972), the Convention on International Trade in Endangered Species (1973), and the Convention on Migratory Species (1979) and other conventions at the regional level. “Biodiversity includes all forms of life on earth like the plants, animals’ microorganisms, genetic diversity found in the ecosystem”<sup>402</sup>. The main reason for adoption of the Convention was to provide provisions for protection and conservation of biological resources of the Earth.<sup>403</sup> With rapid globalization there was a need to recognise the importance of biological resources as a global asset that is precious to every living being. The damages caused to the ecosystem and increasing threats to species had led to depletion of biological diversity.<sup>404</sup>

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<sup>399</sup> History of the Convention, *available at*: <https://www.cbd.int/history/> (last visited on April 24, 2021).

<sup>400</sup> Sustainable Development, *available at*: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/sustainable-development> (last visited on June 1, 2019).

<sup>401</sup> The Convention on Biological Diversity, *available at*: <https://www.cbd.int/gbo1/chap-02.shtml> (last visited on June 1, 2019).

<sup>402</sup> History of the Convention on Biological Diversity, *available at*: <https://www.cbd.int/history/>, (last visited on June 1, 2019).

<sup>403</sup> *Id.*

<sup>404</sup> *Supra* note 394 at 30.

The traditional conservation methods were not able to provide protection or control the decline of biological diversity, and to manage the environment a new plan was to be implemented. Various declarations such as the World Conservation Strategy, 1980 and the General Assembly of the United Nations on the World Conservation Strategy, 1982 were framed to deal with the global challenges. To report on environmental and development issues and to deal with sustainable development the General Assembly of the United Nations approved the special independent commission. It was the Brundtland Report of 1987 that highlighted the various challenges for sustainable development and the need for a solution for a multilateral system with cooperation among the countries.<sup>405</sup> It was argued by many scientists, policy makers and the public that the biosphere was a single system and to address the problems related to the global environment a multilateral action was required as individual states or regional groups could not deal with such issues.<sup>406</sup> The United Nations Conference on Environment and Development, or the Earth Summit, was held in Rio de Janeiro in 1992. Agenda 21 i.e. the Programme of Action for Sustainable Development was adopted.<sup>407</sup>

Apart from the growing interest in protection of environment and biological diversity there were also issues related to international mechanisms for environmental funding. With existing debts, there was a need for financial assistance.<sup>408</sup> The Brundtland Report contended the increase in financial support from international sources as there was a growing concern related to funding for environmental issues. An initiative was made by the Montreal Protocol on

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<sup>405</sup> Report of the World Commission on Environment and Development: Our Common Future, *available at*: <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf> (last visited on July 7, 2021).

<sup>406</sup> Declaration of the United Nations Conference on the Human Environment, Stockholm, 16 June 1972, *available at*: <https://legal.un.org/avl/ha/dunche/dunche.html> (last visited on July 7, 2021).

<sup>407</sup> United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June 1992, *available at*: <https://www.un.org/en/conferences/environment/rio1992> (last visited on July 7, 2021).

<sup>408</sup> Chapter 2 The Convention on Biological Diversity, *available at*: <https://www.cbd.int/gbo1/chap-02.shtml> (last visited on April 24, 2021).



Substances that Deplete the Ozone Layer by establishing a financial mechanism that offered financial and technical assistance for the phasing out of chlorofluorocarbons (CFCs). To help the developing countries to repay their debts the concept of debt-for-nature swaps was introduced, the main aim was to promote win-win situations and help for the conservation of the environment.<sup>409</sup> Though a number of proposals were introduced for fund mechanisms, the willingness of donor countries to supply funds was low and most of them did not support the new international agencies. Due to the unwillingness of the donor countries an additional environment related funding was required especially for the developing countries. The World Bank's Development Committee in 1989 and 1990 negotiated for establishing a framework for a new funding mechanism for the environment. In 1990 the Global Environment Facility (hereafter referred to as GEF) Came into being through a tripartite agreement between the World Bank, UNDP and UNEP.<sup>410</sup> GEF was initially adopted for a three-year period and the main objective was to promote international cooperation and to foster action to protect the global environment. It also provided grants and concessional funds to the national, regional or global development projects which aimed at protecting the environment or had some global environmental objectives.<sup>411</sup> The GEF covered four major areas and protection of biological diversity being one of the areas. One of the major programs undertaken by the GEF was to assist 24 developing countries in preparing the Biodiversity Country Studies. The main aim of such studies was to provide data and analyze such collected data to help in developing plans and policies at the national level for e conservation and sustainability of the available biodiversity. Such studies could be incorporated with plans, programs, or policies of other

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<sup>409</sup> Vienna Convention for the Protection of the Ozone Layer Vienna, 22 March 1985, *available at*: <https://legal.un.org/avl/ha/vcpol/vcpol.html> (last visited on July 23, 2021).

<sup>410</sup> Global Environment Facility, *available at*: <https://www.unep.org/about-un-environment/funding-and-partnerships/global-environment-facility> (last visited on July 7, 2021).

<sup>411</sup> Study of GEF's Overall Performance, *available at*: <https://www.ais.unwater.org/ais/aism/getprojectdoc.php?docid=3885> (last visited on July 23, 2021).

relevant sectoral or cross-sectoral ideas.<sup>412</sup> It required that all the country have a national biodiversity strategy for the protection of biological diversity and to incorporate the conservation and sustainable use of biodiversity into all sectors of national planning. Similarly, it required that the importance of conservation and sustainable use is recognised as an important component of biological diversity.<sup>413</sup> The World Conservation Union (hereafter referred to as IUCN) explored numerous ideas of a treaty that could provide the conservation of natural resources. Successful treaty was drafted between 1984 and 1989 and main focus was given on the need for conservation of biodiversity at the genetic, species and ecosystem at the global level. It also included *in-situ* conservation within and outside protected areas. To manage the conservation burden between the North and the South, IUCN also provided the provision of a funding mechanism.<sup>414</sup> In 1988 the United Nations Environment Programme (hereafter referred to as UNEP) prepared the Ad Hoc Working Group of Experts on Biological Diversity the main function of the committee was to deal with the issue related to convention on biological diversity.<sup>415</sup> The main aim was to find a solution to make a balance between benefits sharing between developed and developing countries and to provide support to innovations made by local people.<sup>416</sup> The main objectives were to provide balance between the conservation of biological diversity and the growing issue relating to biotechnology sector, trade and agriculture.<sup>417</sup> The main focus of the negotiators was to establish a new generation of environment conventions. The conventions sought to provide remedy to the problems the biodiversity was facing due to the activities of economic sectors and the trends related to global

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<sup>412</sup> The Global Environment Facility, *available at*: [https://www.cbd.int/doc/nbsap/finance/BurgielCohen-GEF-RiotoNewDelhi-AGuidefNGOs\\_topics-212-00.pdf](https://www.cbd.int/doc/nbsap/finance/BurgielCohen-GEF-RiotoNewDelhi-AGuidefNGOs_topics-212-00.pdf) (last visited on July 7, 2021).

<sup>413</sup> An Introduction to National Biodiversity Strategies and Action Plans, *available at*: <https://www.cbd.int/doc/training/nbsap/b1-train-intro-nbsap-revised-en.pdf> (last visited on July 7, 2020).

<sup>414</sup> *Supra* note at 408.

<sup>415</sup> History of the Convention, Convention on Biological Diversity, *available at*: <https://www.cbd.int/history/> (last visited on September 23, 2020).

<sup>416</sup> Convention on Biological Diversity, *available at*: <https://www.cbd.int/undb/media/factsheets/undb-factsheets-en-web.pdf> (last visited on June 5, 2019).

<sup>417</sup> *Supra* note at 408.

production and consumption. More importance was sought to recognise the importance of biodiversity and climate changes in national policies and planning in all sectors, national legislation and relevant international legal regimes.<sup>418</sup>

“On 22 May 1992 the Convention was adopted in Nairobi and between 5 to 14 June 1992 it was signed by 156 States and one regional economic integration organization, the European Community at Rio de Janeiro”.<sup>419</sup> The world community’s growing commitment to sustainable development inspired the Convention. It was a historic step that was adopted for sustainable development and conservation of biological resources, it also provided benefit sharing provisions for fair and equitable utilization of the genetic resources.<sup>420</sup>

The CBD is one of the most all-inclusive international agreements that has been adopted for protection of biodiversity on Earth.<sup>421</sup> With rapid loss of biological resources directly or indirectly there was an urgent need to adopt an international agreement that could provide protection to available biodiversity and also acknowledged various social and economic objectives for the use of biological resources.<sup>422</sup> Recognising the social and economic needs in a way helps for sustainable use and conservation of biological resources.<sup>423</sup> Hence, Convention on Biological Diversity marks a historic event where the different nations came together to provide protection and conservation of biological diversity, and to utilize available biological resources in a sustainable manner and to see that equal benefits are shared after the

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<sup>418</sup> *Supra* note at 399.

<sup>419</sup> *Id.*

<sup>420</sup> The Relation between the Convention on Biological Diversity and Other International Treaties on the Protection of Wildlife, *available at*: [https://dadun.unav.edu/bitstream/10171/21329/1/ADI\\_XI\\_1995\\_04.pdf](https://dadun.unav.edu/bitstream/10171/21329/1/ADI_XI_1995_04.pdf) (last visited on June 5, 2019).

<sup>421</sup> *Id.*

<sup>422</sup> Biodiversity and Sustainable Development, *available at*: <https://www.cbd.int/doc/newsletters/news-sd-supplement-en.pdf> (last visited on September 26, 2019).

<sup>423</sup> Advancing the biodiversity agenda, *available at*: [https://unemg.org/2018/images/emgdocs/publications/Advancing\\_the\\_biodiversity\\_agenda\\_biodiversity\\_Publication\\_full\\_report.pdf](https://unemg.org/2018/images/emgdocs/publications/Advancing_the_biodiversity_agenda_biodiversity_Publication_full_report.pdf) (last visited on June 7, 2019).

use of such genetic resources.<sup>424</sup> It is regarded as a comprehensive agreement which addresses all aspects of biological diversity, genetic resources, species and ecosystem.<sup>425</sup> Though it was an important step taken by various countries, the importance of the Convention was felt mostly after the provisions came in conflict with the provisions of the TRIPs Agreement that was adopted in 1994.

#### **4.2.ii Trade Related Aspects of Intellectual Property Rights, 1994.**

There existed varying levels of intellectual property protection and enforcement as countries have different goals, values, culture, tradition and political conditions. With the difference of protection level, the benefits and harms of intellectual property protection depended upon the individual country.<sup>426</sup>

Intellectual Property Rights (hereafter referred to as IPRs) is the rights that is awarded to a person over the creations that they have created by using their minds, such rights are usually in the form of a limited 'exclusive rights' and it provides protection to them under national law as creator, inventor or researcher.<sup>427</sup> The exclusive rights allows the creator to use the creation and prohibit others from using the creation without his/her permission. Through such IPRs the creator can avail some economic benefits too. IPRs being territorial rights are only valid in jurisdictions where such rights are awarded or recognised.

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<sup>424</sup> A Guide to the Convention on Biological Diversity, *available at*: <https://www.iucn.org/content/a-guide-convention-biological-diversity> (last visited on September 28, 2019).

<sup>425</sup> *Id.*

<sup>426</sup> Donald P. Harris, "TRIPs' Rebound: An Historical Analysis of How the TRIPs Agreement Can Ricochet back against the United States", 25 *Nw. J. Int'l L. & Bus.* 99 (2004-2005)

<sup>427</sup> What is Intellectual Property? *available at*: <https://www.wipo.int/about-ip/en/> (last visited on March 22, 2020).

The Intellectual Protection system acts as a tool of public policy which aims at promoting economic, social and cultural welfare by encouraging creative works and technological innovation, so that the benefits of such creation reach the general public.<sup>428</sup>

Along with the protection it also aims at transfer and dissemination of technology. The main objective was to provide copyright protection and related rights and to encourage and reward creative works. The main aim of the Copyrights is to provide a chance for authors and artists or creators to earn some economic benefits from their creative works. The copyrights not only serve as an incentive to an author, but also lead a way for economic foundation for cultural industries because licensing of such cultural products to publishers and producers makes such products available at the market.<sup>429</sup> The other IP rights such as patents were specifically designed to provide protection to the creator and the innovations that resulted from investment in research and development. Thus, it is correct to say that IPRs provided incentive and means to finance applied Research and Development.<sup>430</sup>

The need for an agreed framework for Intellectual Property protection was felt in the early 1880s. Simultaneously, the first attempt was made through multilateral regulatory meetings: the Paris Convention for Protection of Industrial Property of 1883 on industrial property (patents, trademarks and designs) and the Berne Convention for the Protection of Literary and Artistic Works in 1886 were negotiated.<sup>431</sup> Later on various other agreements were concluded such as the Rome Convention, 1961 on recording of performing arts, the Budapest Treaty, 1977 on the deposit of new micro-organisms for the purpose of patent procedures and the

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<sup>428</sup> Intellectual Property Rights-Laws and Practices, *available at*: [https://www.icsi.edu/media/webmodules/CRCPP\\_IPRL%26P\\_2018\\_DEC\\_30.pdf](https://www.icsi.edu/media/webmodules/CRCPP_IPRL%26P_2018_DEC_30.pdf) (last visited on March 22, 2020).

<sup>429</sup> *Supra* note at 420.

<sup>430</sup> Introduction of the TRIPS Agreement, *available at*: [https://www.wto.org/english/tratop\\_e/trips\\_e/ta\\_docs\\_e/modules1\\_e.pdf](https://www.wto.org/english/tratop_e/trips_e/ta_docs_e/modules1_e.pdf) (last visited on April 30, 2021).

<sup>431</sup> The Making of TRIPS Agreement, *available at*: [https://www.wto.org/english/res\\_e/booksp\\_e/trips\\_agree\\_e/history\\_of\\_trips\\_nego\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/trips_agree_e/history_of_trips_nego_e.pdf) (last visited on June 7, 2019).

Washington Treaty (1989) on integrated circuit layout designs.<sup>432</sup> The policy makers and trade negotiators realized that IP was indeed trade-related and the value and significance of IP could be recognised if a comprehensive set of trade agreements was adopted.<sup>433</sup> After the Paris and Berne conventions an intergovernmental body also called the International Bureau was established in 1893 to monitor the administrative coordination.

The countries realized that without trans-border coordination of legislation and enforcement of IPRs, little could be done to restrict the patent or copyright imitations. It was realized that unless similar protection is offered by the other countries, patent or copyrights protection could be restricted only within national boundaries. The international agreements on patents, copyrights, designs and trademarks requires that the countries provide a minimum level of IPR protection to non-residents as is provided to its residents. The national treatment provisions are essential as it prevents discrimination against non-resident applicants or rightsholders. The main idea of the Paris and Berne Conventions is represented, and the provision of national treatment strives to ease the process of obtaining IPRs in different jurisdictions.<sup>434</sup> A proposal to negotiate rules on trade in counterfeit goods was put forward at the Tokyo Round of multilateral trade negotiations. The same negotiation resulted in development of a draft Agreement on Measures to Discourage the Importation of Counterfeit Goods. The negotiations matter was not included in the Tokyo Round 1979 as it could not reach an understanding.

In 1986 at the Punta del Este Declaration, a set of negotiations on trade-related aspects of IPRs was adopted as a part of Uruguay Round. It is considered a complex and ambitious set of

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<sup>432</sup> Trade-Related Aspects of Intellectual Property Rights, *available at*: <https://www.pc.gov.au/research/supporting/intellectual-property/trips.pdf> (last visited on April 24, 2021).

<sup>433</sup> Jayshree Watal and Antony Inabman, "The making of the TRIPs agreement, personal insight from the Uruguay Round Negotiations" *available at*: [https://www.wto.org/english/res\\_e/booksp\\_e/trips\\_agree\\_e/history\\_of\\_trips\\_nego\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/trips_agree_e/history_of_trips_nego_e.pdf) (last visited at June 7, 2019).

<sup>434</sup> Trade-Related Aspects of Intellectual Property Rights, *available at*: <https://www.pc.gov.au/research/supporting/intellectual-property/trips.pdf> (last visited on April 24, 2021).

multilateral trade negotiations that was framed by trade ministers.<sup>435</sup> There were many representatives who worked on matters relating to the inclusion of the aspects of Intellectual Property. These negotiations were launched in 1986 and completed in 1994.

The negotiating group from 1986 to 1989 mainly discussed the necessity for a mandate to negotiate rules on Intellectual Property Rights in general, or only on the trade related aspects.

The Developing countries only included trade related aspects relating to trade in counterfeit goods or anti-competition practices in relation to intellectual property rights.<sup>436</sup> A group of 14 developing countries and the European Communities, Japan, the USA, Switzerland submitted a detailed proposal.<sup>437</sup> A composite text was made by the chairman of the Negotiating group which was based on the submission.

After numerous negotiations and discussions, the revised TRIPs text was sent to the Brussels Ministerial Conference. Even then there were many differences related to the forum for lodging the agreement and on dispute settlement. Other issues included the provisions relating to patents, undisclosed information, copyright, geographical indication and transition periods.<sup>438</sup>

Later in 1991 and 1993, certain developments were made on the provisions of patent, such changes included the scope and timing of rights, term of protection, transition periods, and the protection of existing subject matter etc., The other issue related to the forum was resolved with the establishment of Single Understanding i.e. the Multilateral Trade Organization.<sup>439</sup>

Arthur Dunkel, the then Director General of GATT released the Final Act with minor changes to the TRIPs provisions. The Uruguay Round Agreements established the World Trade Organization and included the TRIPs Agreement, an intellectual property treaty that

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<sup>435</sup> *Supra* note at 409.

<sup>436</sup> *Supra* note at 410.

<sup>437</sup> Argentina, Brazil, Chile, China, Colombia, Cuba, Egypt, India, Nigeria, Pakistan, Peru, Tanzania, Uruguay and Zimbabwe.

<sup>438</sup> Adrian Otten, "The TRIPs negotiations: An overview", *available at*: [https://www.wto.org/english/res\\_e/booksp\\_e/trips\\_agree\\_e/chapter\\_3\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/trips_agree_e/chapter_3_e.pdf) (last visited on June 8, 2019).

<sup>439</sup> *Supra* note at 430.

significantly strengthens intellectual property rights worldwide.<sup>440</sup> Other results included reduction of customs tariffs worldwide, similarly the liberalization of, and implementation of rules governing trade in textiles and agriculture -two areas previously largely excluded from the GATT".<sup>441</sup> The main outcomes of the Uruguay Round include reduction of customs tariffs worldwide, the liberalization of, and development of better rules governing trade in textiles and agriculture which were excluded previously by GATT. The new areas of trade were also included, which in a way reflected the growing economic importance at an international level.

The two new areas were added for the trading system. To increase the economic importance trade in services and intellectual property was included and there was an increase in the share of international trade.<sup>442</sup> Under the GATT and the WTO the provision relating to national treatment anti-discrimination were also incorporated into multilateral trade agreements. In trade agreements the main objective was to prevent discrimination in government policy against goods from other countries but under the IPR agreements the non-discrimination provisions apply to persons or corporations. Likewise, development of a reinforced and integrated dispute settlement system was introduced, which was applicable to any agreements covered by the WTO. The Uruguay Round also resulted in the creation of a new organization. On 1 January 1995, the Marrakesh Agreement Establishing the World Trade Organization came into existence.<sup>443</sup>

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<sup>440</sup> Understanding the WTO, *available at*:

[http://apeda.gov.in/apedawebsite/about\\_apeda/understanding\\_e.pdf](http://apeda.gov.in/apedawebsite/about_apeda/understanding_e.pdf) (last visited on June 8, 2019).

<sup>441</sup> The GATT Uruguay Round: Effects on Developing Countries, *available at*:

<https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8155.pdf> (last visited on June 8, 2019).

<sup>442</sup> Intellectual property: protection and enforcement, *available at*:

[https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm7\\_e.htm](https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm) (last visited on June 8, 2019).

<sup>443</sup> Introduction of TRIPs Agreement, *available at*:

[https://www.wto.org/english/tratop\\_e/trips\\_e/ta\\_docs\\_e/modules1\\_e.pdf](https://www.wto.org/english/tratop_e/trips_e/ta_docs_e/modules1_e.pdf), (last visited on June 8, 2019).



Broadly speaking there are five areas covered by TRIPs<sup>444</sup>, they are:

- various general provisions and the basic principles that are applicable to international IP;
- the minimum standards of protection of IP;
- and procedures that the members need to provide for the enforcement;
- settlement of disputes that are related to IP, and
- time period for the implementation of TRIPs provisions.

TRIPs is regarded as one of the most important and necessary instruments that has been framed at the multinational level for the protection of intellectual property rights.<sup>445</sup> It is a comprehensive multilateral agreement on IP and deals with each of the main categories of IPRs, and established a minimum standard of protection.

### **4.3 OBJECTIVES OF CBD AND TRIPS**

#### **4.3.i Objectives of Convention on Biological Diversity, 1992**

The Convention on Biological Diversity is one of the most important international agreements that provides protection and conservation of biological diversity. The convention ensures the conservation as well as the protection of biological diversity. It also recognises the importance of biological resources for achieving social and economic goals and the benefit that arises out of such use.

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<sup>444</sup> *Supra* note at 416.

<sup>445</sup> Donald Harris, "TRIPs after 15 years: Success or Failure, as measured by Compulsory Licensing", 18 *JIPL*, (2011), available at: <http://docplayer.net/63795755-Trips-after-fifteen-years-success-or-failure-as-measured-by-compulsory-licensing.html> (last visited on June 10, 2019).

The main objectives of the Convention on Biological Diversity are laid down under Article 1<sup>446</sup> which highlights the main aim for forming the convention.<sup>447</sup> Along with Agenda 21<sup>448</sup> and the Convention on Climate Change the main objective of Convention on Biological diversity is to promote sustainable development. Human beings are dependent upon biological resources and hence, importance must be given for the conservation of biological diversity.<sup>449</sup> The Preamble provides that Parties need to acknowledge the need of special provision to meet the needs of developing countries and includes provision relating to financial resources and appropriate access to relevant technologies. Special attention must be awarded to the least developed countries and small island States for this purpose.<sup>450</sup> Article 1 of the Convention provides for preservation, conservation and sustainable use of biological diversity.<sup>451</sup> Genetic materials covered under this Agreement include seeds, cuttings, individual organisms or sperm. As nations have sovereign rights over the use of biological resources they must address the need for protection of biological resources which help in economic and social development.<sup>452</sup> There is a need to address the use of resources that have sustainable use rather than short term benefits.

The various economic sector activities such as agriculture, forestry, fisheries, transportation, urban development activities have caused the loss of biodiversity as it gives attention on gaining short-term benefits rather than long-term sustainability.<sup>453</sup> To achieve the objectives of

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<sup>446</sup>Convention on Biological Diversity, art.1

<sup>447</sup> *Id.*

<sup>448</sup> Agenda 21 is one of the major documents that came out of the United Nations Rio Summit on Environment and Development in 1992.

<sup>449</sup> The Rio Earth Summit: Summary of the United Nations Conference on Environment and Development, *available* at <http://publications.gc.ca/Collection-R/LoPBdP/BP/bp317-e.htm> (last visited on June 10, 2019).

<sup>450</sup> Convention on Biological Diversity (CBD) and protocols, *available at*: <https://www.un.org/ldcportal/convention-on-biological-diversity-cbd/> (last visited on April 26, 2021).

<sup>451</sup> *Supra* note 439, art.1

<sup>452</sup> *Supra* note at 449.

<sup>453</sup> *Supra* note at 409.

the Convention it is important to deal with institutional and economic factors. Similarly, the needs of different stakeholders must be considered.<sup>454</sup> The rights of the local communities over the resources must also be recognised. CBD is the first international legal instrument that recognises the importance of traditional knowledge, it regards the biological resources as an integral part of the life of indigenous peoples and also regards it as the wealth of knowledge, innovations and practices developed by the indigenous and local communities. The indigenous and local communities have for a long time conserved and used biological diversity sustainably.<sup>455</sup> The Convention aims at the application of such traditional knowledge with the approval of the knowledge holder and also to establish a framework that guarantees the rights of the holders to avail benefits that arise out of such use.<sup>456</sup> The Parties are free to develop rules for the implementation of the Convention. There are no set rules or targets laid down by the Convention and so the States have the responsibility to determine the provisions for area of protection and conservation of available resources.<sup>457</sup>

Article 6 to 20 lay down the substantive provisions of the Convention that can be converted into binding commitments. The articles provide provisions for measures for the protection of biological diversity, and also provide ideas for conservation and sustainable use of biodiversity. The article also includes research and training and awareness and education to the public on matters relating to biological diversity and methods to regulate the access to genetic resources, accessing and transferring the technology, and the provision concerned with financial resources.<sup>458</sup> Article 15 of the CBD strives to balance the vast genetic resources of developing

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<sup>454</sup> Grethel Aguilar, "Access to genetic resources and protection of traditional knowledge in the territories of indigenous peoples", *4ELSEVIER245* (2001).

<sup>455</sup> Traditional Knowledge and the Convention on Biological Diversity, *available at* <https://www.cbd.int/traditional/intro.shtml> (last visited on June 11, 2019).

<sup>456</sup> *Supra* note at 447.

<sup>457</sup> The Convention on Biological Diversity, *available at*: <https://www.cbd.int/gbo1/chap-02.shtml> (last visited on June 12, 2019).

<sup>458</sup> The CBD and Its Potential Implications for the Agricultural Sector in Europe, *available at* [https://ieep.eu/uploads/articles/attachments/1f8b98df-cff6-46ae-b6f8-8fbfdd84592e/WP5D2\\_CBD.pdf?v=63664509697](https://ieep.eu/uploads/articles/attachments/1f8b98df-cff6-46ae-b6f8-8fbfdd84592e/WP5D2_CBD.pdf?v=63664509697) (last visited on June 12, 2019).

countries against the enormous economic resources of developed countries by regulating access to genetic resources. CBD also encourages developed countries to compensate developing countries for the utilization of their resources.<sup>459</sup> CBD strives for a common heritage approach, where the States have sovereign rights over the resources that are located within their jurisdiction. CBD governs the transfer of genetic resources and for the same purpose a Prior Informed Consent procedure is laid down under Article 15(5) of the Convention. It established a procedure for granting access to other contracting parties for accessing resources. Convention provides that access to genetic resources is subjected to prior informed consent.<sup>460</sup> Guidelines have been developed through the Conference of the Parties to assist States in making decisions. The COP, through decision VI/24, adopted the Bonn Guidelines for regulating access to genetic resources. The main objectives are to contribute to the preservation of biological diversity and to provide a transparent framework to the parties and stakeholders to facilitate access to such resources. Likewise, a system of protected areas is advocated in the CBD for the preservation of biological resources.<sup>461</sup> It encompasses not only in situ protection of biological resources from invasive species, but it also links this to the preservation of traditional knowledge and its utilization in preserving biodiversity. Article 8 of the Convention provides that States must adopt a system to conserve biological diversity.<sup>462</sup> The Convention also acknowledges the traditional practices of indigenous communities under Article 8 (j).<sup>463</sup> According to the provision, States have a duty toward commitment to preservation of traditional practices and culture. States are encouraged to protect biological resources in accordance with traditional knowledge.

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<sup>459</sup> Blais, Francois, "The Fair and Equitable Sharing of Benefits from the Exploitation of Genetic Resources: A Difficult Transition from Principles to Reality' Le Prestre, Philippe G. (ed.), *Governing Global Biodiversity*, Burlington, VT: Asgate, 2002, p.145

<sup>460</sup> The Convention on Biological Diversity 1992, art.15, (5) provides Access to genetic resources.

<sup>461</sup> The Convention on Biological Diversity 1992, art.8

<sup>462</sup> States shall establish a system of protected areas or areas to conserve biodiversity.

<sup>463</sup> The Convention on Biological Diversity 1992, art.8(j)

There are three institutions established under the Convention: The Conference of the Parties (hereafter referred to as COP), the Subsidiary Body on Scientific Technical and Technological Advice (hereafter referred to as SBSTTA) and the Secretariat. Under Article 4<sup>464</sup> the jurisdictional scope of the CBD is laid down.<sup>465</sup> The main functions of COP are to keep under review the implementation of the Convention and to steer its development.<sup>466</sup> Under Article 25 of the Convention an open-ended intergovernmental scientific advisory body, Subsidiary Body on Scientific, Technical and Technological Advice, SBSTTA, is established, and its main function is to provide advice and recommendations to COP.

A Secretariat is established under Article 24, and their main function is to prepare for meetings of the COP. The Governments undertake to conserve and sustainably use biological resources. They develop national strategies for development and protection of the environment.<sup>467</sup> Along with this there are several other commitments that needs to be considered by the Government such as: -

- To identify and monitor the components of biodiversity and conserve and use it sustainably,
- for conservation of biodiversity establishing protected areas, and promoting the recovery of threatened species with cooperation of local people,
- recognizing, respecting and preserving Traditional knowledge of indigenous people for sustainable use of biodiversity,
- controlling the risks posed by organisms modified by biotechnology, and
- to educate people and raise awareness among them regarding the importance of biodiversity.

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<sup>464</sup>The Convention on Biological Diversity 1992, art.4

<sup>465</sup> Convention on Biological Diversity- Introduction, *available at*: <https://www.cbd.int/convention/bodies/intro.shtml> (last visited on June 14, 2019).

<sup>466</sup> The Convention on Biological Diversity, art.23

<sup>467</sup> *Supra* note at 412.

#### **4.3.ii Objectives of Trade Related Aspects of Intellectual Property Rights, 1994**

One of the essential parts of WTO is the TRIPs agreement and every member of the WTO is bound by it. Prior to TRIPs, the Paris Convention of 1883 provided the international framework for intellectual property but it did not lay down a uniform standard of IP protection. The TRIPs Agreement establishes a minimum standard of protection and enforcement of IPRs for members of WTO.<sup>468</sup> The WTO Agreement was signed by member countries to provide effective and adequate protection of the IPRs on a global scale.<sup>469</sup> Similar to the General Agreement on Tariffs and Trade (hereafter referred to as GATT) and the General Agreement on Trade in Services (hereafter referred to as GATS), the key principles of TRIPs include the non-discrimination provisions, the national treatment provision, and the concept of most favored nation.<sup>470</sup>

The TRIPs Agreement is regarded as a complete multilateral agreement on Intellectual Property. The TRIPs Agreement deals with various IPRs and establishes minimum standards for protection of the same. It also lays down the administration and enforcement of IPRs, and provides provisions for settlement of disputes among the members regarding the standard of protection.<sup>471</sup> TRIPs are divided into seven parts. The first Part lays down the general provisions and the basic principles of the Agreement, it covers the provision relating to national treatment and most-favored-nation treatment, and exhaustion of IPRs. Part II of the Agreement provides for the minimum standards of IP protection to be provided by WTO

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<sup>468</sup> Peter K.Yu, "The International Enclosure Movement", 82 *IND, LJ.* 827, 828(2007).

<sup>469</sup> WTO TRIPs: Trade Related Intellectual Property Rights, *available at:* <https://kalyan-city.blogspot.com/2011/03/wto-trips-trade-related-intellectual.html?m=1> (last visited on June 16, 2019).

<sup>470</sup> *Supra* note at 416.

<sup>471</sup> Introduction to the TRIPs Agreement, *available at:* [https://www.wto.org/english/tratop\\_e/trips\\_e/ta\\_docs\\_e/modules1\\_e.pdf](https://www.wto.org/english/tratop_e/trips_e/ta_docs_e/modules1_e.pdf) (last visited on April 27, 2021).

members. Part I and II consists of the substantive rules and the WTO Members are required to implement those in their national legal systems. Part III deals with the enforcement obligations of Members. TRIPs Agreement provides the general principles applicable to IP enforcement procedures. Certain procedures and remedies are specifically laid down so that the right holders can enforce their rights. Part IV provides the procedure of application for availing IP protection and also the means for acquiring and maintaining intellectual property rights. The dispute settlement mechanisms are laid down under part IV of the Agreement and it requires that the dispute settlements are transparent to avoid infringement of rights.<sup>472</sup> The provision relating to transition period, transfer of technology, and technical cooperation is laid down under the Sixth part. Lastly, Part VII contains matters related to institutional arrangements and other certain issues, such as the protection of existing subject matter.<sup>473</sup> The preamble of TRIPs is an integral part of the Agreement and was negotiated during the Uruguay Round. The main purpose of the Agreement was to recognise IP as private rights and to avoid distortions and impediments to international trade. Hence, IPRs are practiced by the holder and not the government authorities. Similarly, under Article 28 a patent right guarantees exclusive rights to the inventor. The patent holder can restrict any other person from using, making, offering for sale the product that has been patented.<sup>474</sup>

The objectives of the TRIPs Agreement have been laid down under Article 7.<sup>475</sup> Similarly, Article 8 provides the principles of the TRIPs Agreement. These two Articles are considered to be important as it helps the less-developed countries to preserve their hard-earned bargain

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<sup>472</sup> Part I- General Provisions and Basic Principles, *available at*: [https://www.wto.org/english/docs\\_e/legal\\_e/27-trips\\_03\\_e.htm](https://www.wto.org/english/docs_e/legal_e/27-trips_03_e.htm) (last visited on June 16, 2019).

<sup>473</sup> Dispute Settlement, World Trade Organization -TRIPS, *available at*: [https://unctad.org/en/Docs/edmmisc232add18\\_en.pdf](https://unctad.org/en/Docs/edmmisc232add18_en.pdf) (last visited on June 16, 2019).

<sup>474</sup> Ram Singh, "Implementation of Intellectual Property Rights Regime: The Justification Question, 30 *JSTOR* 65 (2002).

<sup>475</sup> The Trade Related Aspects of Intellectual Property Rights, 1994, art. 7

that they acquired through the TRIPs negotiations. As the Article lays down the important role played by IPRs for promoting creativity and innovation, but the least developed countries were concerned with the negative impact that such protection could have upon social and economic development. Article 7 provides a way through which a middle ground could be attained to optimize innovation and promote social and economic development, while at the same time lessen the demerits outcomes of IPR protection.<sup>476</sup> Article 7 aims to provide a balanced approach for the protection of IP, where the interest of both the producers and users are taken into consideration. Under Article 66 of the TRIPs Agreement the provisions for technology transfer, especially for meeting the needs and requirements of the least-developed country members has been provided. The least developed countries who experience the economic, financial and administrative constraints must be given some flexibility to develop a sustainable technological base and the Agreement allows such members a period of 10 year from the date of application.<sup>477</sup> But they are required to apply the provisions mentioned under Article 3, 4 and 5. But the Council for TRIPs can extend the period<sup>478</sup> and 67<sup>479</sup> of the Agreement if the least developed country Member requests for such extension. The Council must see that the protection is awarded to IPRs as it is required to promote technological innovation and also to transfer and disseminate the technological advancement for achieving the complete objective of promoting social and economic welfare.

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<sup>476</sup> *Supra* note at 443.

<sup>477</sup> The Trade Related Aspects on Intellectual Property Rights, 1994, art. 65 (10f)

<sup>478</sup> The Trade Related Aspects on Intellectual Property Rights, 1994, art. 66

<sup>479</sup> The Trade Related Aspects on Intellectual Property Rights, 1994art.67



Under Article 8 the Members are allowed to adopt specific measures that are required to provide protection to health and nutrition. Article 8(2)<sup>480</sup> recognises the right of Members to act against anticompetitive practices relating to IP.<sup>481</sup>

Article 1.1<sup>482</sup> of the TRIPS Agreements clearly lays the minimum standards of protection that are required to be followed by all member states for protecting the IP. The principle of non-discrimination is upheld by the WTO and it covers trade in goods, services and IPRs. Similarly, Article 3 to 5 of the TRIPs agreement deals with national treatment and most-favored-nation treatment. The Articles require the Member states to maintain the substantive standards of protection in matters relating to IPRs availability, acquisition, scope and enforcement. It also requires the member to look at matters that specifically affect the use of IPRs. Article 3<sup>483</sup> provides that National treatment must be accorded. It means that with regard to the protection of IP, the members are required to provide the same treatment to people from other countries as they provide to their people or nationals. The main aim of the national treatment is to avoid discrimination between members. Under Article 4<sup>484</sup> the provision relating to Most Favored Nation has been laid down, and the main aim is to prohibit discrimination between the nationals of other members.<sup>485</sup> According to this article the national treatment and MFN treatment obligations are not applicable to any multilateral agreements concluded under the auspices of WIPO, especially matters that are related to the acquisition and maintenance of IPRs.

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<sup>480</sup> The Trade Related Aspects on Intellectual Property Rights, 1994, art.8.2

<sup>481</sup> Dispute Settlement: World Trade Organisation, *available at*:  
[https://unctad.org/en/Docs/edmmisc232add18\\_en.pdf](https://unctad.org/en/Docs/edmmisc232add18_en.pdf) (last visited on June 20, 2019).

<sup>482</sup> The Trade Related Aspect on Intellectual Property Rights, art. 1.1

<sup>483</sup> The Trade Related Aspect on Intellectual Property Rights, art. 3

<sup>484</sup> The Trade Related Aspect on Intellectual Property Rights, art. 4

<sup>485</sup> Introduction to the TRIPS Agreement, *available at*:  
[https://www.wto.org/english/tratop\\_e/trips\\_e/ta\\_docs\\_e/modules1\\_e.pdf](https://www.wto.org/english/tratop_e/trips_e/ta_docs_e/modules1_e.pdf) (last visited on April 28, 2021).

Article 62 of the TRIPs Agreement requires the members to comply with reasonable procedures and formalities for the acquisition or maintenance of IPRs.<sup>486</sup> Under para 4 of Article 62 the procedures relating to the acquisition or maintenance of the IPRs are laid down. The procedures for acquisitions, and maintenance of IPRs must be just and equitable.<sup>487</sup> The Ministerial Conference has the power to make decisions and amendments to the procedures.

The TRIPs Council was established by the WTO to look after the functioning of the TRIPs Agreement. The main function of the Council is laid down under Article 68 of the TRIPs Agreement. Article 69 provides provision for the member states to establish and provide contact points at their administrative level so that cooperation is gained among each other to eliminate trade reacted to infringing goods.

When the TRIPS agreement came into existence countries were given a certain transition period for applying the provision of TRIPS.<sup>488</sup> The TRIPs Agreement required the implementation of minimum standards for protection for IPRs and also to monitor the legislations of member states at the end of the transition period. The transition period was different for different countries. The developed countries were given time till January 1996 and for developing countries, a five years transition period was allotted i.e. until 1<sup>st</sup> January 2000.<sup>489</sup> For the least developed countries, TRIPs recognizing their special needs gave more time than others, the least developed countries were provided a transition period until 1<sup>st</sup> January 2006 with an extension if so was requested.<sup>490</sup> The Council were required to form a forum for consultation purposes if there arose any issues related to the TRIPs Agreement between the

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<sup>486</sup> The Trade Related Aspect on Intellectual Property Rights, art.62

<sup>487</sup> *Id.*, art.62

<sup>488</sup> The Trade Related Aspects of Intellectual Property Rights, art.65

<sup>489</sup> The Trade Related Aspects of Intellectual Property Rights, arts.65 (2), (3)

<sup>490</sup> Least Developed Countries (LDCs), *available at*: <https://www.un.org/development/desa/dpad/least-developed-country-category.html> (last visited on September 13, 2020).

member countries. The Council were also required to attend to various issues faced by members and most of the time it included different matters relating to sharing of information or seeking clarifications and discussion of the issues. The WTO is also empowered to constitute a forum for negotiation among the members related to multilateral trade relations in the area of the IP. Most of the times the main areas of discussion include, various annulment of multilateral system of notification and providing registration to the Geographical Indications related to wines and secondly the review of Article 27.3 (b) of TRIPs agreement. The TRIPs Agreement is a strong instrument that regulates IP protection and also makes best use of the IP system for the economic, social and cultural development of the countries.<sup>491</sup>

#### **4.4 DIFFERENCE BETWEEN THE PROVISION OF TRIPS AND CBD**

As noted earlier in the preceding paragraphs, the objectives of TRIPs and CBD are totally different from each other. The areas of protection that they cover are different and due to the very condition, there arises some conflicts between the two. To understand it, a detailed view is provided in the following paragraphs. The conflict between CBD and TRIPs can be clearly understood if we look at the impact of the TRIPs provisions upon the environment and biological resources of developing countries. As TRIPs is designed to strengthen International Intellectual Property Protection hence, there are no provisions to promote protection to biodiversity. The TRIPs agreement talks about protection of social and cultural rights of the people but only the economic rights of an individual or corporations are safeguarded leading to various problems or conflicts. The differences between the two instruments are prominent and there is a huge gap between the provisions laid down by the instruments. These differences

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<sup>491</sup> Introduction to the TRIPS Agreement, *available at*: [https://www.wto.org/english/tratop\\_e/trips\\_e/ta\\_docs\\_e/modules1\\_e.pdf](https://www.wto.org/english/tratop_e/trips_e/ta_docs_e/modules1_e.pdf) (last visited on September 12, 2020).

have been discussed, debated many times but yet a proper solution to the issue has not been accepted.

#### **4.4.i Differences in Objectives and the area of protection.**

CBD obligates the countries to conserve, sustainably use, and guarantee access to genetic resources, in return for an equitable sharing of benefits with prior informed consent.<sup>492</sup> CBD was formed to put a check on rapid loss of biodiversity and to regulate provisions like access and benefit sharing. It also aims to provide acknowledgement to the role played by indigenous and local communities over the use and conservation of biological resources.<sup>493</sup> Main objectives of CBD have been laid down under Article 1<sup>494</sup>, and under Article 3,<sup>495</sup> it is mentioned that the States have sovereign rights over their resources and can exploit it in accordance with their own environmental policies. The other Articles like 4 and 5 specify the jurisdictional scope of the Convention and also obligates parties to the Convention to cooperate in the conservation and sustainable use of biological diversity.

Article 15<sup>496</sup> the Convention mentions three important components required to assure the fair and equitable sharing of benefits. Likewise, the access to and transfer of technology is facilitated under Article 16 of the Convention. It is essential to see that such transfer is enhancing the conservation and sustainable use of biological diversity, or the use of genetic resources.<sup>497</sup> The sub-clause of this Article provides a detailed list about what constitutes appropriate access to, and transfer of technology. Hence, when we look at the above-mentioned Articles it gives us the view that biological resources must be conserved and used by the States

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<sup>492</sup> Fair and Equitable Sharing of Benefits Arising from the Use of Genetic Resources, *available at* <https://www.cbd.int/doc/meetings/abs/absep-01/other/absep-01-equitable-en.pdf> (last visited on June 21, 2019).

<sup>493</sup> Martin Khor, *Intellectual Property, Biodiversity and Sustainable Development*, (Zed Books, 2002).

<sup>494</sup> The Convention on Biological Diversity, 1992, art.1

<sup>495</sup> The Convention on Biological Diversity, 1992, art.3

<sup>496</sup> The Convention on Biological Diversity, 1992, art. 15

<sup>497</sup> Overview: The TRIPs Agreement, *available at*: <https://www.wto.org/english/tratop-e/trips-e/ta-docs-e/modules10-e.pdf> (last visited on June 21, 2019).

to share benefits to the communities.<sup>498</sup> Whereas, TRIPs is an international agreement that encourages and supports corporations to promote technological dominance.<sup>499</sup> The Agreement provides protection to a set of intellectual property rights like patent, trademarks, geographical indications, copyright etc. TRIPs aim to provide rights and benefits to IPRs holders. The main objectives as laid down under Article 7 of TRIPs is protection and enforcement of intellectual property rights. Every member state must provide a minimum standard of protection.<sup>500</sup> Under the Agreement, private rights are awarded to the creator for a certain period of time. Hence, the protection guaranteed under the TRIPs Agreement is opposite to the protection guaranteed under CBD.<sup>501</sup> TRIPs, favours commercial advancement and has no place for human development and environmental protection. Due to these TRIPs, has in many ways affected the implementation of CBD objectives, as importance is given to private rights over community rights, also most of the time patent is granted to use of genetic resources and traditional knowledge without availing the consent of the people who have developed or use the same. Such instances have led to denial of benefit sharing rights to the indigenous communities mentioned under CBD.<sup>502</sup> Hence, the main objectives of CBD are affected when the objectives of TRIPs are implemented. Furthermore, Article 27<sup>503</sup> is one of the most controversial and disputed Article of TRIPs, as it requires member states to provide patent protection for all types of inventions irrespective of the field of technology, provided the invention has to be novel, have an inventive step and capable of industrial application. Hence, if the traditional knowledge

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<sup>498</sup> Article 16. Access to and Transfer of technology, *available at*: <https://www.cbd.int/kb/record/article/6900?RecordType=article> (last visited on June 21, 2019).

<sup>499</sup> *Supra* note at 489.

<sup>500</sup> *Supra* note at 490.

<sup>501</sup> Issues Linked to the Convention on Biological Diversity in the WTO Negotiations: Implementing Doha Mandates, *available at*: [https://www.ciel.org/wp-content/uploads/2015/03/Doha\\_CBD-10oct02.pdf](https://www.ciel.org/wp-content/uploads/2015/03/Doha_CBD-10oct02.pdf) (last visited on June 21, 2019).

<sup>502</sup> *Id.*

<sup>503</sup> Article 27 of TRIPs provides that patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application.

is used by the inventor or researcher to come up with any invention, then such inventions are regarded as novel, which infringes the rights of traditional knowledge holders. Thus, it can be said that the differences between their objectives has led to more conflicts between them and not much has been done to resolve the same.

#### **4.4.ii Ideas of Rights**

The rights protected under CBD are mostly community rights or rights available to all but, TRIPs favours private rights or monopoly rights which are guaranteed for a particular period of time. With change in times, the area of patent has expanded and the researchers have started using the ideas, knowledge or practices that were being followed by indigenous communities of a particular place for availing private rights. Such knowledge has been used by the indigenous or local communities since ages and exchanged it freely among themselves. Such knowledge being in public domain must not be claimed for patent protection, but there are many instances when such knowledge/practices has been used without the consent of indigenous communities leading to infringement on their collective rights to avail some economic profits through it.

Under Article 8(j)<sup>504</sup> and 10(c)<sup>505</sup> of CBD, the rights of indigenous communities have been recognised, and the State has the sovereign power over the biological resources.<sup>506</sup> This claim over the rights to use and exploit the resources has been debated many times during the negotiations of the TRIPs Agreement. But, there still exists a conflict when Article 27 of the TRIPs agreement is implemented. As mentioned earlier, Article 27 gives utmost importance to patents. Patents can be awarded for any inventions, and in all fields of technology. It is very important to note that patents can be awarded even through slight changes in the genes of

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<sup>504</sup>The Convention on Biological Diversity, 1992, art. 8(j)

<sup>505</sup> The Convention on Biological Diversity, 1992, art.10(c)

<sup>506</sup> The Convention on Biological Diversity, 1992, art.3

biological resources like plants, animals, microorganisms etc., many inventions based on biological resources have been protected under patents, and have been treated as chemical substances.<sup>507</sup> The researchers add value to the discovery by mere manipulation of genes and make it available for industrial applications claiming it to be novel. The main issue arises when inventors apply the TK of indigenous communities and come up with a particular product be it drug, food article etc., but they do not recognise the contribution of knowledge of indigenous communities. Once a patent is granted they are not given any benefits as mentioned under the CBD, moreover their collective rights to use such knowledge is not acknowledged. Hence, it won't be wrong to say that TRIPs favours private or exclusive rights over community rights.<sup>508</sup> The granting of patents over such resources or knowledge also affects the sovereign rights of the nation states.<sup>509</sup> The rights to use the resources by the States that are mentioned under the CBD are not met with, the social or cultural rights of indigenous communities are adversely affected while protecting the economic right of an individual or corporations. Article 27 of the TRIPs Agreement does not consider the fact that traditional knowledge and a genetic material can be used in research and invention without prior approval and benefit sharing. Most of the times the failure to check the approval leads to grant of wrongful patents and the rights of indigenous communities over the use of such resources or knowledge is infringed.<sup>510</sup> Again under Article 28 of TRIPs it is clearly mentioned what rights a patent holder gets. In this way an individual is given exclusive rights.<sup>511</sup> The granting of exclusive rights acts as a barrier in

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<sup>507</sup> Lekha Laxman, Abdul Haseeb Ansari, "The interface between TRIPS and CND: effort towards harmonization", vol.11, *JITLP* 108, (2012).

<sup>508</sup> Protecting Traditional Knowledge: Pathways to the Future, *available at*: [http://www.ictsd.org/sites/default/files/downloads/2008/12/protecting-traditional-knowledge\\_pathways-to-the-future.pdf](http://www.ictsd.org/sites/default/files/downloads/2008/12/protecting-traditional-knowledge_pathways-to-the-future.pdf) (last visited on June 24, 2019).

<sup>509</sup> G.K. Rosendal, *Biodiversity: between diverse international arenas*, 2 (Bergesen, Earthscan, London 1999/2000).

<sup>510</sup> Traditional Knowledge and Patentability, *available at*: [https://www.iisd.org/pdf/2003/investment\\_sdc\\_may\\_2003\\_7.pdf](https://www.iisd.org/pdf/2003/investment_sdc_may_2003_7.pdf) (last visited on June 25, 2019).

<sup>511</sup> Intellectual Property Rights in Plant Biotechnology: A Contribution to Crop Biodiversity, *available at*: [https://www.researchgate.net/publication/238775178\\_Intellectual\\_Property\\_Rights\\_in\\_Plant\\_Intellectual\\_Pr](https://www.researchgate.net/publication/238775178_Intellectual_Property_Rights_in_Plant_Intellectual_Pr)

flow of knowledge and together with it the economic and social rights of indigenous communities is hampered. The provisions of collective rights mentioned under CBD are violated when Article 27 and 28<sup>512</sup> is implemented, especially when the research is a product of TK and genetic resources used by indigenous communities. The inadequacy of strict access laws has led to illegal access of genetic materials and traditional knowledge for inventions which are granted patent protection.<sup>513</sup>

#### 4.4.iii Ideas of Consent

One of the most important provisions that is adhered by CBD is the idea of prior informed consent, under Article 15<sup>514</sup>( 4, 5)<sup>515</sup> it is clearly mentioned that prior informed consent must be availed for access of genetic resources. But the lack of availing consent under TRIPs Agreement, affects the provision of prior informed consent mentioned under CBD. The main requirement to avail patent is that an invention should be novel, have an inventive step and industrial application apart from these three requirements there is no question of consent or benefit sharing.<sup>516</sup>

Article 27.3 (b) of the TRIPs Agreement provides that the member state can protect their biological resources either through patent or *sui generis*<sup>517</sup> legislation. But apart from it there

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<sup>512</sup> Trade Related Aspects of Intellectual Property Rights, 1994, Art.28

<sup>513</sup> David Vivas Eugui, "Issues linked to the Convention on Biological Diversity in the WTO Negotiations: Implementing DOHA Mandates", 2002, *available at*: [https://www.ciel.org/wp-content/uploads/2015/03/Doha\\_CBD-10oct02.pdf](https://www.ciel.org/wp-content/uploads/2015/03/Doha_CBD-10oct02.pdf) (last visited on June 27, 2019).

<sup>514</sup> Article 15 of CBD, *available at*: <https://www.cbd.int/kb/record/article/6897?RecordType=article>, (last visited on June 27, 2019).

<sup>515</sup> Article 15 (4), (5) of CBD provides that access, where granted, shall be on mutually agreed terms and subject to the provisions of this Article. 5.

<sup>516</sup> Inventive Step or Non-obviousness of an Invention, *available at*: <https://www.niscair.res.in/sciencecommunication/researchjournals/rejour/jipr/Fulltextsearch/2005/May%2005/JIPR-vol%2010-May%202005-pp%20232-238.htm> (last visited on June 28, 2019).

<sup>517</sup> Sui Generis meaning of its own kind or new.



are no provisions as to how the resources can be accessed and there is no idea of benefit sharing. Without the above-mentioned provisions of prior informed consent and benefit sharing the rights of indigenous communities is being infringed. This leads to biopiracy cases which are against the objectives of the CBD.<sup>518</sup> Prior informed consent and ensuring the benefit sharing rights is not recognised under TRIPs Agreement, whereas under CBD, provides provision for prior informed consent and also supports the benefit sharing provision as it is an important tool that can stop illegal access of genetic resources and traditional knowledge.<sup>519</sup> If the consent and benefit is shared then many illegal cases can be avoided and it will be easy to revoke wrong patent claims. Prior informed consent is very important especially with the rise of demand for protection of traditional knowledge, as many times the associated traditional knowledge is used by the researchers without the permission of the traditional knowledge holders, and later taking away their economic rights by claiming patent over the use of such traditional knowledge.<sup>520</sup> There are no provisions under the TRIPs Agreement that specifically talks about the protection of traditional knowledge. Hence, it can be said that Intellectual property rights are being used to evade CBD obligations. The TRIPs Agreement also does not provide any provisions regarding the sharing of benefits with the indigenous peoples who have been using such genetic resources and traditional knowledge.<sup>521</sup> The main aim of the Agreement is to provide monopoly rights to the inventor or researcher for a fixed period of time. This in a way obstructs in implementation of the benefit sharing provisions that is mentioned under the Convention.<sup>522</sup>

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<sup>518</sup> Case studies on access and benefit-sharing, *available at*: <https://www.cbd.int/financial/bensharing/several-case-IPGRI.pdf> (last visited on July 1, 2019).

<sup>519</sup> Disclosure requirements: Ensuring mutual supportiveness between the WTO TRIPs Agreement and the CBD, *available at*: [https://www.ciel.org/Publications/DisclosureRequirements\\_Nov2005.pdf](https://www.ciel.org/Publications/DisclosureRequirements_Nov2005.pdf) (last visited on July 1, 2019).

<sup>520</sup> Accessing Biodiversity and Sharing the Benefits: Lessons from Implementing the Convention on Biological Diversity, *available at*: <https://www.cbd.int/financial/bensharing/g-abs-iucn.pdf> (last visited on 5 July, 2019).

<sup>521</sup> Wan Izatul Asma Wan Talaat, "Protection of the Associated Traditional Knowledge on Genetic Resources: Beyond the Nagoya Protocol", *Elsevier Ltd.* (2013).

<sup>522</sup> Article 27.3b, traditional knowledge, biodiversity *available at*: [https://www.wto.org/english/tratop\\_e/trips\\_e/art27\\_3b\\_e.htm](https://www.wto.org/english/tratop_e/trips_e/art27_3b_e.htm) (last visited on July 6, 2019).

#### 4.4.iv Access and Benefit Sharing Arrangements

Article 15.4 of CBD provides that the access of biological resources must be availed on mutually agreed terms meaning that the access of resources must be done on an agreed term and shall be subject to prior informed consent as laid down under Article 15(5). One of the key objectives of CBD is that the state has sovereign rights over the biodiversity and knowledge, and hence must regulate access of such resources and knowledge for equitable benefits to the communities.<sup>523</sup> A State must take legislative, administrative or policy measures to see that access of biological resources and sharing of benefits are met as required by the provisions.<sup>524</sup> Hence, if any resources are being accessed for any research and development, the benefits that arise out of the utilization must be shared equally on mutually agreed terms.

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity also recognise the benefit sharing provision.<sup>525</sup> Like CBD the Nagoya Protocol also acknowledges the traditional knowledge associated with the genetic resources and the provision relating to benefits sharing that arises from its utilization.<sup>526</sup>

Under TRIPs, there is no provision for access and benefit sharing, so when a patent holder invents something by using the resources the patent holder is not required to share the benefits that arise out of the utilization of the resources to the state or communities from where such

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<sup>523</sup> Elements of an International Regime for the Recognition of National Regulations on Access to Genetic Resources, *available at*: [http://indiaenvironmentportal.org.in/files/UNCTAD\\_DITC\\_TED-july2008.pdf](http://indiaenvironmentportal.org.in/files/UNCTAD_DITC_TED-july2008.pdf) (last visited on July 10, 2019).

<sup>524</sup> *Supra* note 502, at 60.

<sup>525</sup> The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity is a supplementary agreement to the Convention on Biological Diversity. It provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilization of genetic resources.

<sup>526</sup> About the Nagoya Protocol, *available at*: <https://www.cbd.int/abs/about/default.shtml/> (last visited on July 12, 2019).

resources are taken. Without such provisions it becomes difficult for the indigenous communities and the state to prove that the resources used were from their territory or a part of their TK.<sup>527</sup> The current framework of TRIPs does not provide any provision for promoting equitable sharing and adequate incentives for conservation of biodiversity. TRIPs focus to encourage innovators who invent new products by applying genetic resources, while CBD works to create incentives for the people who have conserved the resources. Such instances of not sharing of benefits and availing private rights over the use of resources leads to infringement of rights of Indigenous communities.

#### **4.4.v Protection of Rights of Indigenous Peoples**

The rights of Indigenous Peoples have been talked about in many Conventions, Declarations, Treaties but still they do not avail such rights. Similarly, when we talk about CBD and the TRIPs conflicts it is important to note that the rights of indigenous communities have not been specifically protected. The Convention on Biological Diversity under Article 8j<sup>528</sup> and 10c<sup>529</sup> provides for protection of indigenous rights. The Nation states are required to frame laws that provide preservation, maintenance and acknowledge the traditional and indigenous knowledge of the people. The access to and benefit sharing provisions of knowledge related to biological resources must be acknowledged and encouraged under the national legislation.<sup>530</sup> The COP must recognise and respect the cultural, spiritual, religious, social, economic and subsistence values of biodiversity for indigenous peoples.<sup>531</sup> Since earlier times indigenous peoples and

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<sup>527</sup> *Supra* note at 429.

<sup>528</sup> *Supra* note at 438.

<sup>529</sup> The Convention on Biological Diversity, 1992, art.10(c)

<sup>530</sup> Role and Rights of Indigenous People and Local Communities on Benefit Sharing, *available at*: <https://www.cbd.int/abs/submissions/assessment/acb-role-iplc-abs-en.pdf> (last visited on July 10, 2019).

<sup>531</sup> Indigenous Peoples' Rights, State Sovereignty and the Convention on Biological Diversity, *available at*: <https://www.forestpeoples.org/en/topics/convention-biological-diversity-cbd/publication/2011/indigenous-peoples-rights-state-sovereig> (last visited on July 10, 2019).

local communities have lived in close contact with nature and they have preserved and maintained ecosystems and genetic resources through their customary sustainable management practices and have contributed to the conservation and protection of biodiversity.<sup>532</sup>

The indigenous and local communities who have the knowledge as well as the rights to use such resources must be awarded some economic rights, but under the TRIPs agreement the rights of indigenous and local communities are not mentioned. Moreover, there are no specific provisions that talk about the indigenous or local communities.<sup>533</sup> As mentioned earlier the rights of the indigenous communities are infringed when patents are awarded. The indigenous communities have rights over the use of the resources and if an invention or product is made by using the knowledge or resources of certain indigenous communities, then benefits must be shared.<sup>534</sup> They have rights to earn certain economic profits but once a patent is granted an individual or a corporation earns the monopoly rights over the use of such invention. One of the areas that needs to be considered for protection is the medicinal biodiversity of the community that has been used by them since ages.<sup>535</sup> The community rights over the use of such medicinal resources as well as the benefits that arise out of such utilization must be acknowledged. Without recognizing the rights of indigenous communities' misappropriation can take place.<sup>536</sup> Eventually, all this can also have a negative impact on the environment and loss of specific resources.

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<sup>532</sup> Traditional Knowledge, *available at*: <https://www.cbd.int/cop/cop-13/media/cop13-press-brief-tk.pdf> (last visited on July 10, 2019).

<sup>533</sup> The gap between Indigenous Peoples' Demands and WIPO'S Framework on Traditional Knowledge, *available at*: [https://www.wipo.int/export/sites/www/tk/en/igc/ngo/ciel\\_gap.pdf](https://www.wipo.int/export/sites/www/tk/en/igc/ngo/ciel_gap.pdf) (last visited on August 7, 2019).

<sup>534</sup> Traditional Knowledge and Intellectual Property-Background brief, *available at*: [https://www.wipo.int/pressroom/en/briefs/tk\\_ip.html](https://www.wipo.int/pressroom/en/briefs/tk_ip.html) (last visited on August 7, 2019).

<sup>535</sup> Biopiracy and Protection of Traditional Knowledge: Intellectual Property Rights and Beyond, *available at*: [https://www.iimcal.ac.in/sites/all/files/pdfs/wps-629\\_1.pdf](https://www.iimcal.ac.in/sites/all/files/pdfs/wps-629_1.pdf) (last visited on August 10, 2019).

<sup>536</sup> Intellectual Property and Traditional Knowledge *available at*: [https://www.wipo.int/edocs/pubdocs/en/tk/920/wipo\\_pub\\_920.pdf](https://www.wipo.int/edocs/pubdocs/en/tk/920/wipo_pub_920.pdf) (last visited on August 10, 2019).

#### 4.4.vi Protection of the Environment

One of the reasons for adoption or formation of CBD was to provide protection to the environment and under Article 1<sup>537</sup> of the Convention the main objectives are clearly mentioned. Other than this there are various articles that provide a background for the protection of the environment. The main aim for conservation and sustainable use is for betterment of the environment. Article 19<sup>538</sup> provides provision related to handling of biotechnology and distribution of the benefits. But, TRIPs objectives are different, and no importance is given to protection of the environment as given under CBD. Only under Article 27.2 the member states are allowed to exclude from patentability inventions, which is against the order of public or mortality. This Article also guarantees rights of human, animals or plant life or health and also provides protection to the environment.<sup>539</sup> Only this provision provides some area for protection to the environment. TRIPs main objective is commercial profits, and aims at development of technologies hence, even if any inventions are adversely affecting the environment even then not much is done to stop such research or inventions.

#### 4.5 SIMILARITIES BETWEEN CBD AND TRIPS

CBD and TRIPs though have various differences, but there are certain provisions that show that their objectives are connected and complement each other. TRIPs provide IP and focus on providing profits to the innovators. But the IPR protection can benefit both the developed and developing countries if such protection is given at an appropriate level.<sup>540</sup> IP can also help

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<sup>537</sup> Article 1 of CBD provides “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources”.

<sup>538</sup> The Convention on Biological Diversity, 1992, art.19

<sup>539</sup> An examination of Article 27 of the TRIPS Agreement in relation to the provisions on patentable subject matter under the PDA in Nigeria, *available at*: <https://www.tandfonline.com/doi/abs/10.1080/03050718.2016.1187072?scroll=top&needAccess=true&journalCode=rclb20> (last visited on August 16, 2019).

<sup>540</sup> Muria Kruger, “Harmonizing of TRIPs and the CBD: A Proposal from India”, *MJIL* (2001)., *available at*: <https://scholarship.law.umn.edu/mjil/197> (last visited on August 22, 2019).

indigenous people to protect their craftsmanship from exploitation. There are certain Articles under TRIPs that provide for protection of environment, human health, biological resources etc.<sup>541</sup>

Firstly, Article 8 of TRIPs states that Member States may formulate or amend their laws and regulations, and adopt measures for the betterment of health and nutrition of the public and to promote public interest.<sup>542</sup>

Provided that such measures must be consistent with the provision of the TRIPs Agreement. Article 8, provide the socio-economic and technological development similar to what is mentioned under Article 16<sup>543</sup> of CBD. Under Article 16 of Convention provisions regarding access to and technology transfer has been mentioned.

Similarly, under Article 27(2), members are allowed to exclude patents on inventions that could cause damage to public order or morality.<sup>544</sup> This Article does mention that commercial exploitation that is against public order, environment, health of humans, plants and animals must be prevented. The main aim of the Articles if read along with the objectives of CBD, seems to be similar, CBD aims at conservation and sustainable development of biological resources which in turn help in protection of environment, and betterment of health of human and other living beings.<sup>545</sup>

Article 27(3) allows member states to formulate a sui generis form of protection with respect to plant varieties.<sup>546</sup> So, the member states can formulate legislation that is new and provides

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<sup>541</sup> *Supra* note at 535.

<sup>542</sup> Trade Related Aspects of Intellectual Property Rights, art.8

<sup>543</sup> Trade Related Aspects of Intellectual Property Rights, art.16

<sup>544</sup> Trade Related Aspects of Intellectual Property Rights, art. 27(2),

<sup>545</sup> Article 8. In-situ Conservation, *available at*: <https://www.cbd.int/convention/articles/default.shtml?a=cbd-08> (last visited on August 25, 2019).

<sup>546</sup> Implementation of Article 27.3(b): Drafting and Enacting National Legislation (Sui Generis Systems), *available at*: <http://www.fao.org/3/x7355e/x7355e07.htm> (last visited on August 25, 2019).

protection to the areas that have not been covered or protected. Similarly, Article 22(1) of the Convention provides provisions related to relationships between other international instruments.<sup>547</sup>

The other similarity between the CBD and TRIPs is that both instruments do not provide protection for medicinal biodiversity. Medicinal biodiversity which leads to development of new drugs or products, or any such medicinal resources that are being used by the indigenous communities must be protected, but there are no specific provisions that provide for the protection. If both the instruments work harmoniously then the rights of people can be protected. For example, if any one develops a new life saving drug with the use of medicinal resources associated to the traditional knowledge of the indigenous communities then it can be beneficial to may at first, the rights of an inventor are guaranteed second, the rights of indigenous communities are also acknowledge and lastly, the right to health to all human being also gets safeguarded. Because, development of a new life saving drug can help in saving the life of many.

#### **4.6 CONCLUSION**

The relationship between TRIPs and CBD as we can understand is prone to conflicts with each other, due to difference in objectives, the area of protection etc. The major problem arises when the question of granting patents upon the genetic resources and TK is raised. TRIPs aim to provide exclusive protection to innovators for developing new products or processes, whereas CBD focuses on granting incentives to indigenous people. One of the main objectives of CBD is to provide benefits after the utilization of biological resources, but TRIPs nowhere mentions or aims to provide the benefits. Similarly, TRIPs have no provisions for protection of rights of indigenous communities. Hence, there exists a conflict between the provisions of CBD and

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<sup>547</sup> The Convention on Biological Diversity, 1992, art 22.1

TRIPs. Till now only under the Doha Ministerial Declaration, 2001 paragraph 19, some recommendations has been stated that would bring about some coordination and cooperation between two Agreements, and it provides “that the Council of TRIPs must see that there is no conflicts between the provisions of CBD and TRIPS especially while reviewing Article 27.3(b), or while analysis the fulfillment of provision under Article 71.1<sup>548</sup> of the TRIPs Agreement and the implementation of paragraph 12<sup>549</sup> of the Declaration, especially with regard to protection of traditional knowledge and folklore. Apart from this Declaration there is no specific convention or declaration that talks about cooperation or coordination between CBD and TRIPs.

There needs to be a certain balance in the provision of the agreements, without coordination the disputes seem to be a frequent one. The rights of indigenous communities and the acknowledgment of the traditional knowledge of traditional holders must be recognised or included in the TRIPs agreement.

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<sup>548</sup> The Trade Related Aspects of Intellectual Property Rights Agreement, 1994, art. 71.1

<sup>549</sup> Doha 4<sup>th</sup> Ministerial Declaration, *available at*: <https://www.wto.org/english/thewto-e/minist-e/min01-e/mindecl-e.htm> (last visited on August 27, 2019).



**CHAPTER FIVE**  
**LEGAL FRAMEWORK OF INDIA FOR PROTECTION OF MEDICINAL**  
**BIODIVERSITY**

**5.1 HISTORICAL BACKGROUND**

Forest has been a part of India's culture, tradition and has been worshiped since ancient times. The forest was considered a gift of nature and the whole community used it equally. The communities of India depend on hunting and gathering foods from the forest. In Ancient times the commercial exploitation of forest resources was limited and only a few commodities like pepper, ivory, cardamom were traded. Due to colonization and the intervention of the state, the situation changed dramatically. The forest dwellers or communities living in the forest areas were alienated from the land that they had occupied since ages, they were made to leave and their rights over the use of forest resources were denied.<sup>550</sup> The colonial state redefined property rights and imposed a new system of management and control which was against the customary rules that were followed by the communities.<sup>551</sup> The ideology of the Britishers was to give more importance to commodification of resources, new species such as teak, oak, pine and deodar, such resources were promoted as it could be used for trade. This was just the starting of problems for the local communities, in 1807, the East India Company acquired royalty rights over teak, by availing that the locals were denied the use of timber for domestic purposes. In 1853, with the introduction of Railways the Indian forests were immensely exploited. Since, the forest was being cut down and it made the Britishers realize that it could hamper their trade and cause loss of revenue, hence, a Forest Department was established, and later with the help of German Foresters the Forest Department was set up in the year 1864. The Indian Forest Act

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<sup>550</sup> Evolution of Forest Laws in India, *available at*: <https://www.ukessays.com/essays/history/evolution-of-forest-laws-in-india-history-essay.php> (last visited on July 23, 2021).

<sup>551</sup> *Id.*

of 1878, was rigorous and strict in nature and provisions were made in such a manner that could protect the colonial interest and expansion. The rights of the local communities were denied and such rules were laid down that they were allowed only limited use of forest resources. The Britishers had complete control over the forest and were reserved and managed by them for their benefits.<sup>552</sup>

Due to the extensive exploitation of resources, the cultivation, agriculture and certain hunting activities of hunters were hampered. Apart from capturing the forest, the Britishers were fond of hunting, large scales of animals like elephants, tigers, birds were hunted, it caused a huge decline of animal species. Earlier the people had unrestricted access to resources, it was only after the new forest Act that restrictions were imposed on them, and they were denied the use of the forest resources. Their rights that they were enjoying since ancient times were curtailed and these led them to protest against the injustice. In 1879-80 one of the revolts was started by the tribal people for their rights and independence. The situation during the colonial period was very difficult, as the basic rights of local communities were violated.<sup>553</sup> The Forest Act of 1927 had no changes, and this Act enabled the Colonial Government to reserve more land as forest land, so that it could use it for commercial purposes, the rights of tribal people were not recognised. Similarly, even after the Independence not much change was there, the main importance was given to conservation of forest, so that they could exploit it commercially for industrial development. Even after 1970 the local use of rights of the tribal peoples weren't recognised. New Act i.e. Forest Conservation Act, 1980 was passed, the main objective was conservation of forest, this Act like earlier ones, didn't recognise the rights of forest dweller and tribal peoples instead, they were termed as "encroachers". It was in 1990 that the tribal

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<sup>552</sup> Sarup Sinha, Forest of India: A Review of its Colonial Ordeal, *available at*: <http://www.ijrhss.org/pdf/v3-i3/5.pdf> (last visited on July 23, 2021).

<sup>553</sup> *Id.*

rights were being recognised, by 73<sup>rd</sup> Amendment a Bhuria Committee was formed to look into the tribal rights. The tribal rights over “community resources” was recognised and the Gram Sabha played an important role during this time. The main aim was to provide a basic principle for future law making concerning tribal, but most of the States changed the provisions of the Act in order for it to comply with the State Laws. Under the Panchayats Extension to Scheduled Areas Act, 1996, ownership was to be given to Gram sabha over minor forest produce, yet this was not followed, most of the states didn't care to follow the provisions of the Act. The States made certain policies that restricted the control of Panchayats over minor forest produce in reserve forest.

The history shows how the forest was a part of Indian culture, and how due to colonization the scenario changed drastically. There is no doubt that after Independence the Government framed strict laws to protect and conserve forest, yet it can be said that the main aim of such Acts was to put control over the forest whereas the rights of tribal and forest dwellers were never recognised.

Apart from the Forest Laws, the history of Environment Law in India is very important. Environment is important and the laws were essential in building up a relationship between humans and the natural system. Environment is a part of biodiversity and the concept of protection and preservation of Environment in India can be traced back to ancient times. Since the very beginning human beings have strived to protect Mother Earth. India is a part of almost all Declarations, Conventions, Protocols that are dedicated for the protection of the Environment. The Environment (Protection) Act was enacted in 1986. India is a member of the Stockholm Declaration, United Nation Environment Program, Rio Declaration, Kyoto Protocol etc. Even the Indian Constitution provides for protection, preservation of the environment. Right to clean environment is a Fundamental Right under Article 21 of the

Constitution. Only if the environment is clean, the biodiversity is protected, as the biodiversity includes every fauna and flora. *M.C. Mehta v. Union of India*<sup>554</sup>, is the first case that laid down the jurisprudence for Indian Environmental Law. In this case the Apex Court held that the protection of the environment and economic developments must be in coordination and that such combination must be for greater good of the people. Development should be a sustainable one and must recognise the importance of human beings. The Indian Judiciary has time and again implemented the principles of Environment Law.<sup>555</sup> Again in the case of *People United for Better Living in Calcutta v. State of Bengal*<sup>556</sup> the Calcutta High Court observed that “development must be in harmony with the environment”. The principle of Sustainable Development was upheld as the court mentioned that a balance must be maintained between economic growth and the environment. Apart from the above-mentioned cases there are many other cases that were decided in favour of protection to the environment. In *M.C. Mehta v. Kamal Nath*<sup>557</sup>, the Apex Court laid down that the public trust doctrine requires the Government to make sure that the common properties are used by the general public and such resources must be available to everyone and no one can be a single owner of it. Through this manner the Indian Environmental Law was established.<sup>558</sup> History shows how various Acts were framed and the need to protect the forest, resources and the environment. Apart from the above-mentioned Acts, there are numerous Acts that are framed to provide protection to the available resources in the country. Yet there are numerous issues of biopiracy, misappropriation, habitat destruction and genetic erosion.

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<sup>554</sup> *M.C. Mehta V. Union of India*, AIR 1987 SC 965.

<sup>555</sup> Pratyush Pandey, *History of Environmental Law*, available at: <http://lawtimesjournal.in/history-of-environmental-law/> (last visited on April 27, 2021).

<sup>556</sup> *People United for Better Living in Calcutta v. State of West Bengal*, AIR 1993 Cal 215.

<sup>557</sup> *M.C. Mehta v. Kamal Nath*, (1997) 1SCC388.

<sup>558</sup> *Supra* note at 546.

Habitat destruction is also a threat to medicinal plants; few varieties of the medicinal plants are provided protection under the Forest (Conservation) Act, 1980 and the Wildlife (Protection) Act, 1972. But, most of the time medicinal plants grow in regions other than the areas protected by the law, which leads to extinction of such without anyone having knowledge about it. Lack of a specific conservation strategy leads to depletion of these valuable resources and in turn leads to a threat to the availability of medical plants. Medicinal plants are important resources for development of various new drugs and almost 95% of the medicinal plants used for developing drugs by the pharmaceutical companies are collected from the wild. The whole plant, its roots, stem, barks, woods and leaves are collected for this purpose. Such collection has led to destructive harvesting and making the medicinal plants disappear.

Hence, a strict provision is required to monitor the use of the resources or it could lead to misappropriation and disappearance of available genetic resources and medicinal resources.<sup>559</sup>

Pharmaceutical companies have had a keen interest in the medicinal resources for preparation of drugs and other products. The fact that ethno-botanical knowledge which involves the use of plants and the traditional methods has helped in discovery of new drugs cannot be denied. When such knowledge is used for development of new drugs the pharmaceutical companies claim IP protection on them. Most of the time a patent is granted and the patent gives the company a monopoly rights to use such resources and to sell and manufacture the same. This led to infringement of the rights of the indigenous communities who have developed the knowledge. The pharmaceutical companies gain monopoly through patents and also avail the financial rewards without acknowledging the ethno-medicinal knowledge.<sup>560</sup> This act is termed

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<sup>559</sup>Seema Bhatt, why does India Need a Medicinal Plant Policy, *available at*: [https://www.devalt.org/newsletter/jan98/of\\_2.htm](https://www.devalt.org/newsletter/jan98/of_2.htm) (last visited on August 12, 2020).

<sup>560</sup>The Protection of Medicinal Plants in India, *available at*: <http://envis.frlht.org/sangeeta.php> (last visited on August 17, 2020).

as bio-piracy, as commercially useful products that are derived from traditional knowledge are used without any return to the knowledge holders. With the eyes of pharmaceutical companies on the rich medicinal plants and health care present in India for research and development programs to discover new products has led indigenous peoples to face difficult situations. Most of the time the resources are availed by the companies without the consent of the people who have conserved and used such resources since ancient times. Intellectual Property Rights such as patents have both negative and positive outcomes. On one hand if the prior informed consent is availed and benefits are shared then it can be a good way to provide economic benefits to the indigenous peoples. But on the other hand, if the resources are misappropriated then the rights of the indigenous communities over the use of such resources are infringed. There are always two sides as in on hand they want to share their biological resources and knowledge, based on medicinal plants, as this could lead to development of new products and a natural wish for some returns. As such knowledge can lead to development of new products they wish for not only economic returns but also for credits or acknowledgment that they made to the final product. But, the wishes or demands of the communities may be different from each other, as some might not wish to share their knowledge. Plants are always considered as a main source for development of drugs. The rural areas especially in developing countries still depend on the traditional resources for treatments. As already mentioned, in India there are different tribes or indigenous peoples who are known for their culture and conservation of plant biodiversity. They have special knowledge that is not known such as ethnomedicinal, and ethnopharmacological information regarding the flora of their surroundings, which may prove to be very helpful in rural communities. But there is threat to such ethnopharmacological knowledge as there has been a decrease in tribal cultures due to change in lifestyle, development programs near their lands, and due to globalization. The traditional knowledge

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holders are mostly older people and hence it is important for youth to be vigilant and aware about the knowledge. It is very important to acknowledge the vast medicinal resources and document this exceptional, original, and conventional information of the ethnic population, before it disappears with the knowledgeable persons. It is also necessary because with recent development there are various changes taking place and only by recognizing it at international and national level will knowledge be protected.<sup>561</sup>

## **5.2. IMPORTANCE OF MEDICINAL BIODIVERSITY**

The medicinal system in India dates back to at least 5000 BC. Such a traditional system of medicine was used in India when there was an outbreak of epidemic diseases such as cholera, smallpox and malaria. Later the tribal peoples of India were influenced by the Chinese/Tibetan system of medicine. Hence, India has relied on her own indigenous plant diversity for the traditional medicinal system.

The medicinal plants have been used in every household to treat various disease, or illnesses. In India tribal shamans, women and elderly people have the knowledge of various plants that have various medicinal properties. “According to the World Health Organization, over 80% of the world’s population, or 4.3 billion people, rely upon such traditional plant-based systems of medicine to provide them with primarily health care”.<sup>562</sup> India has more than 8,000 medicinal plants that are used by different communities in India across different ecosystems, but only 10% of them are in active trade. Most of them are exported in the form of raw drugs and extracts. There has been a huge decline in the wild species that are traded thereby, making them

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<sup>561</sup> Maurya Santosh Kumar, et.al., “Biodiversity and Indigenous Uses of Medicinal Plant in the Chandra Prabha Wildlife Sanctuary, Chandauli District, Uttar Pradesh” Vol no. *IJB1* (2015).

<sup>562</sup> Jason Holley and Kiran Cherla, The Medicinal Plants Sector in India, *available at*: <https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/24451/109413.pdf?sequence=1> (last visited on May 5, 2021).

to be considered threatened. As already mentioned in the previous chapter, India is one of the world's top 12 mega diversity countries with 10 biogeographic regions.<sup>563</sup>

There have been many attempts to document plant wealth in India. More than 1700 species are documented for their medicinal properties and 1200 species that are used in traditional Indian systems of India have also been recorded. There is still a lack of valuable medicinal species because most of them are not documented. Only if the plants are documented for their properties, natural distribution, ecological tolerance and use, they will be protected.<sup>564</sup>

### **5.3. INDIAN LEGAL FRAMEWORK FOR PROTECTION OF MEDICINAL BIODIVERSITY**

India has vast medicinal plants which are a part of the biodiversity of the country. There is a huge variety of plants and most of such species have medicinal properties, and most of it is associated with the traditional knowledge of people. These plants are famous for their inherent medicinal properties which are used to cure various diseases and ailments.<sup>565</sup> India has defined its medicinal plants or herbs or products derived from them in a different manner, and its status of protecting the same is different from the other countries. India also has adopted various approaches to ensure the safety, quality, and efficacy of medicinal resources. This chapter highlights the different legislations that deal with the issue for the protection of medicinal biodiversity in India.<sup>566</sup>

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<sup>563</sup> L.C.De, Biodiversity and Conservation of Medicinal and aromatic Plants, *available at*:

[https://www.researchgate.net/publication/335422036\\_Bio-Diversity\\_and\\_Conservation\\_of\\_Medicinal\\_and\\_Aromatic\\_Plants](https://www.researchgate.net/publication/335422036_Bio-Diversity_and_Conservation_of_Medicinal_and_Aromatic_Plants) (last visited on May 3, 2021).

<sup>564</sup> Daniel A. Dias, et al., A Historical Overview of Natural Products in Drug Discovery, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3901206/> (last visited on August 17, 2021).

<sup>565</sup> Medicinal Plants and their protection as Traditional Knowledge: A Study of the legal framework with special reference to Cooch Behar District of West Bengal, *available at*: [https://ir.nbu.ac.in/bitstream/123456789/1450/6/06\\_introduction.pdf](https://ir.nbu.ac.in/bitstream/123456789/1450/6/06_introduction.pdf) (last visited on April 19, 2021).

<sup>566</sup> Legal regulations of complementary and alternative medicines in different countries, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3459458/> (last visited on May 27, 2020).



It is a constitutional mandate to protect and improve the environment, and it is a duty of a welfare state to abide by the provisions for protection and improvement of the environment. Specific provisions are laid down under the Constitution of India for the protection of the environment. The Directive Principles of State Policy and Fundamental Duties mentions the importance of environment and the duty to protect the same. At the very beginning the Indian Constitution didn't contain any provisions for the protection of the environment. India was encouraged to amend the Constitution for the protection of the environment and to introduce a direct provision for protection of the environment. Article 48-A<sup>567</sup> was added to the Directive Principle of State Policy by the 42<sup>nd</sup> amendment. Article 51-A (g)<sup>568</sup> also provides for fundamental duty upon the citizen to protect the natural resources.<sup>569</sup> Likewise, Article 253 states the power of the parliament to legislate in matters related to preservation of the natural environment.<sup>570</sup>

### **5.3.1. The Indian Forest Act,1927**

The first Act enacted for administration of forests in India was the Forest Act, 1865. The Act of 1865 was amended from time to time and ultimately was replaced by the Indian Forest Act, 1927 which not only consolidated but also re-shaped the law relating to forests. The main objectives of the Act were to provide exclusive State control and to meet the need for time. The Act aims to provide a strong legal framework for protection of forest and the transportation of forest products. The Act provides definition of ownership and also through this Act the customary rights are terminated. The Act recognises three categories of forests namely the

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<sup>567</sup> The Indian Constitution, 1950, art.48-A

<sup>568</sup> The Indian Constitution, 1950, art. 51-A(g)

<sup>569</sup> Objectives and Features of Wildlife Protection Act, 1972 *available at*: [https://thefactfactor.com/facts/law/civil\\_law/environmental\\_laws/wild-life-protection-act/1454/](https://thefactfactor.com/facts/law/civil_law/environmental_laws/wild-life-protection-act/1454/) (last visited on May 29, 2020).

<sup>570</sup> The Indian Constitution,1950, art.253

protected forest, reserved forest and village forests.<sup>571</sup> The Act consists of 13 chapters and has 86 sections that includes definitions and also lays down the various penalties that are awarded for the violation of the provisions of the Act. The Act empowers the State Government to constitute any forest-land or waste-land as reserved forest and to issue notification in the official gazette.<sup>572</sup> After the notification is issued under section 4 of the Act, then no one can acquire rights in or over the land comprised in such notification. After such notifications the previously recognised individual and community rights over the forest ends. Similarly, the right to access to forest and forest products are subject to permission of forest officials acting under governing laws and regulations.<sup>573</sup> Any person can make claims to the Government for the loss of the legal rights over the forest that they enjoyed earlier. The State also has power to allocate any land which is constituted as a reserve forest to village community rights.<sup>574</sup> The rules for managing the village forests and other provisions are made by the State Government. Apart from this, the State Government has also been empowered to declare any forest land or waste land which is not included in the reserve forest as protected forests.<sup>575</sup> The State Government also has the power to regulate all rights and privileges for the use of protected forests. State Governments have been empowered to notify certain trees and forest to be protected forest and penalize for cutting, converting, collecting or removing forest produce without license being granted by the respective States.<sup>576</sup> Various activities like grazing, tree felling, burning, quarrying, hunting etc. in the forest are prohibited under Section 26 of the Act. Chapter IX deals with penalties and procedures to be followed in case of seizure of property. Certain

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<sup>571</sup> Forest Conservation, *available at*: [http://iced.cag.gov.in/?page\\_id=1061](http://iced.cag.gov.in/?page_id=1061) (last visited on July 20,2020).

<sup>572</sup>The Indian Forest Act, 1927, ss. 3, 4.

<sup>573</sup> The Indian Forest Act, 1927, s.15.

<sup>574</sup> The Indian Forest Act, 1927, s.28.

<sup>575</sup> *Id.*, at s.28

<sup>576</sup> The Indian Forest Act, 1927, ss.32, 33.

punishments are laid down under the Act, such punishments include imprisonment for a term of six months or with fine which may extend to Rs. 500/- or with both.<sup>577</sup>

One of the main aims of framing the Indian Forest Act was to provide protection of biological diversity. There exists no provision that provides protection to medicinal biodiversity or to the rights of indigenous communities. It is the duty of the Forest authority to prohibit and check the misappropriation and smuggling of wild medicinal plants in the country.<sup>578</sup>

The Indian Forest Act of 1927 has been one of the important enactments but with change in times there are various changes that need to be incorporated. The Indian government has been trying to make amendments to the Act of 1927. The central government constituted a high-level committee to recommend amendments in six of India's major environmental and forest laws including the Indian Forest Act, 1927. The committee provided a detailed report in November 2014 but the same was protested by the organization and other experts. The government has made various attempts to amend and bring change to the Act.<sup>579</sup> The Amendment Act contains addition to the preamble which includes conservation, enhancement and sustainable use of the forest resources available in the country. There are various initiatives that are made for strengthening and supporting the forest based traditional knowledge, as all this ensures environmental stability and wellbeing of people especially who are forest dependent. The amendment Act also provides the definition of community, it recognises people living in a group and are recorded as living in a specified locality and have joint possession and enjoyment of the available resources, irrespective of race, religion, caste, language and

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<sup>577</sup> Overview of the Indian Forest Act, 1927, *available at*: <https://blog.iplayers.in/overview-of-the-indian-forest-act-1927/> (last visited on July 20, 2020).

<sup>578</sup> *Supra* note 563, ss. 3, 4.

<sup>579</sup> Indian government makes another attempt to amend the Indian Forest Act 1927, *available at*: <https://india.mongabay.com/2021/04/indian-government-makes-another-attempt-to-amend-the-indian-forest-act-1927/> (last visited on April 19, 2021).

culture.<sup>580</sup> There are many other amendment provisions but all the attempts have been resisted. The main motive of rejecting the amendment is because the proposed Act is criticized for easing rules in favour of the industry.<sup>581</sup>

### **5.3.2. Forest (Conservation) Act, 1980**

Forests are valuable and the whole ecosystem is dependent on the forests. India enacted the Indian Forest Act of 1927 and the Act mainly focused on timber. The state had power regarding the rights of the tribal people who used the forest freely before the enactment of the Act. After independence a legislation was enacted to conserve the forest. The Forest (Conservation) Act was enacted and the main objective of the Act was to protect the forest of the country and the matters related to forest. The Acts contain other issues that weren't covered by the Indian Forest Act of 1927.<sup>582</sup>

The Indian Forest Act of 1865 was the first statute enacted for the conservation of forest but later on the Indian Forest Act, 1927 replaced it. The Forest (Conservation) Act, 1980 was enacted to check the matters related to deforestation. As deforestation causes ecological imbalance and leads to environmental deterioration this Act seeks to put a control on deforestation and de-reservation of forests. The Act was passed to remove the difficulties of the Forest Act, 1927. The previous Act didn't provide provision for protection of flora fauna and biodiversity. Therefore, a new Act was enacted to maintain the ecological balance and to preserve the forest of the country. The Act also aimed to provide protection to the forest and prevent deforestation and the loss of forest biodiversity.

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<sup>580</sup> Forest Policy Division, MOEF & CC, GoI [Proposed Indian Forest (Amendment) Act, 2018], *available at*: <https://forest.mizoram.gov.in/uploads/attachments/4bdb5e07743b1d97755783ec4d88459b/pages-226-proposed-amendments-to-ifa-dated-7032019.pdf> (last visited on April 19, 2021).

<sup>581</sup> *Supra* note at 579.

<sup>582</sup> All you need to know about the Forest Conservation Act, 1980, *available at*: <https://blog.ipleaders.in/need-know-forest-conservation-act-1980/> (last visited on April 19, 2021).

The Act contains five sections which are very effective and successful in the conservation of forest.<sup>583</sup> Section 2 of the Act provides various restrictions on use of forest produce.<sup>584</sup> Any person who breaches the provisions of the Act shall be punished with simple imprisonment for a period, which may extend to fifteen days.<sup>585</sup> The Central Government has the power to constitute an advisory committee to advise on matters related to approval under Section 2.<sup>586</sup> The Act also provides provisions relating to punishment to the head of the department or any person in charge during that time.<sup>587</sup> The Act is short and specific to its purpose but, the Act nowhere mentions the protection or conservation of medicinal plants which is also a part of the forest. Many states have forest dwellers in the forest and they are dependent upon such resources but as the power of the state has been transferred to the central government, many times the state government cannot do anything to support the forest dwellers. The forest dwellers and tribal communities have rich traditional knowledge that is associated with the forest resources but their knowledge and contribution is not recognised under this Act.<sup>588</sup>

### **5.3.3. Environment (Protection) Act, 1986**

The Environment (Protection) Act was enacted in 1986. This Act was enacted to comply with the provision laid down under Article 253 of the Constitution.<sup>589</sup> The main aim of enacting this Act was to implement the decision made by the United Nations Conference on the Human Environment, 1972. Hence, it was required to provide protection and improvement of the

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<sup>583</sup> Shyam Divans et al, Environmental Law and Policy in India, *available at*: [https://archive.org/stream/in.ernet.dli.2015.474253/2015.474253.Environmental-Law\\_djvu.txt](https://archive.org/stream/in.ernet.dli.2015.474253/2015.474253.Environmental-Law_djvu.txt) (last visited on August 22, 2020).

<sup>584</sup> The Forest (Conservation) Act, 1980 s. 2

<sup>585</sup> Salient Features of Forest Conservation Act, 1980, *available at*: <https://bnblegal.com/article/salient-features-of-forest-conservation-act-1980/> (last visited on May 30, 2020).

<sup>586</sup> The Forest (Conservation) Act, s. 3

<sup>587</sup> The Forest (Conservation) Act, s. 3-B.

<sup>588</sup> The major drawbacks of the Forest Conservation Act, 1980, *available at*: <https://blog.ipleaders.in/major-drawbacks-forest-conservation-act-1980/> (last visited on April 19, 2021).

<sup>589</sup> The Constitution of India, 1950, art. 253

human environment and to prevent any hazards that could harm human beings, other living creatures, plants and property. One of the reasons for enacting the Act was to provide a protective measure and to prevent environmental harm and protect the environment. The main objective of the Act was to provide protection and improvement of the environment and for matters connected therewith. As the environment is threatened by a wide variety of human activities that range from the instinctive drive to reproduce its kind to the restless urge of improving the standards of living, development of technological solutions, and the natural and chemical wastes that these advances produce.<sup>590</sup> The Central government has the power to make plans that are necessary for the purpose of protecting and improving the quality of the environment and preventing controlling and abating environment pollution. The Department of Environment, Forest and Wildlife of the Central Ministry of Environment and Forest are entrusted with making rules for the implementation of the Act.

Anyone who contravenes the provision of the Act as well as the Rules, Orders and Directions are liable to be punished under Section 15 of the Act.<sup>591</sup> The Environment (Protection) Act, was framed to provide protection and improvement of the environment but after several years of enactment we can still see various issues of pollution in rivers, lands, air etc.

#### **5.3.4. The Wildlife (Protection) Act, 1972**

The Wildlife Protection Act of 1972 was enacted by the Indian Parliament to implement the provision in Article 252 of the Constitution, i.e. for the protection of plant and animal species. The Act is a comprehensive piece of legislation that regulates sanctuaries, national parks, and zoos. There were only five designated national parks before the enactment of the Act, it also established schedules of plant and animal species, and prohibited hunting or harvesting of the

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<sup>590</sup> Environment Protection Act, 1986(Overview), *available at*: <https://www.legalbites.in/environmental-protection-act1986/> (last visited on May 30, 2020).

<sup>591</sup> The Environment (Protection) Act, 1986, s.15

scheduled species. The animals protected under the Act include the Black Buck, Brow Antlered Deer, Chinkara, Capped Langur, Golden Langur etc.<sup>592</sup> The Act consists of 60 Sections and VI Schedules that are divided into 8 chapters. One of the objectives of the Act is to prohibit hunting of wild animals, birds, etc. The Act also lays down various punishments if any one violates the same. The Act also provides protection to the animals and plants which are in danger of being extinct.<sup>593</sup>

The Wildlife (Protection) Act, 1972 was amended with effect from 1 April 2003. Under the amendment two new categories of protected areas, namely, conservation reserves and community reserves were incorporated to facilitate coverage of all bio-geographic zones and forest types; the involvement of the people in the establishment and management of such protected areas was also recognised. The National Environment Policy, 2006, also envisages identifying and giving legal status to environmentally sensitive zones in the country through environmental entities with “incomparable values” requiring special conservation efforts. Such entities would be regulated through the Environment (Protection) Act, 1986. The community and conservation reserves together with environmentally sensitive zones are expected to take care of biodiversity-rich areas outside of the protected area system.<sup>594</sup> Section 51 provides that if any person contravenes any provision of this Act shall be imprisoned and also have to pay the

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<sup>592</sup> All about India’s Wildlife Protection Act, 1972 and the animals protected under the compassionate law, *available at*: <https://www.timesnownews.com/mirror-now/in-focus/article/all-about-indias-wild-life-protection-act-1972-and-the-animals-protected-under-the-compassionate-law/713664> (last visited on April 20, 2021).

<sup>593</sup> Objectives and Features of Wildlife Protection Act, 1972, *available at*: [https://thefactfactor.com/facts/law/civil\\_law/environmental\\_laws/wild-life-protection-act/1454/](https://thefactfactor.com/facts/law/civil_law/environmental_laws/wild-life-protection-act/1454/) (last visited on April 20, 2021).

<sup>594</sup> Forest Biodiversity and Its Conservation in India, *available at*: [https://www.researchgate.net/publication/234100505\\_Forest\\_biodiversity\\_and\\_its\\_conservation\\_in\\_India](https://www.researchgate.net/publication/234100505_Forest_biodiversity_and_its_conservation_in_India) (last visited on May 30, 2020).

required fines.<sup>595</sup> <sup>596</sup> Similarly, Section 51 clause 1 to 4 provides other punishments that are related to the offense covered under the Act.<sup>597</sup>

### **5.3.5. National Forest Policy, 1988**

The National Forest Policy of 1988 was framed to see that the environmental stability is ensured and that the ecological balance is maintained as it is necessary for survival of all life forms plants, animal and human. The Policy was implemented to fulfill various objectives namely, to maintain and restore the ecological balance as it was adversely disturbed due to depletion of forest areas, secondly, to provide conservation of all-natural heritage and preservation of flora and fauna, the policy also aimed to represent the importance of genetic diversity by checking various natural calamities that lead to soil erosion etc., it also encouraged massive afforestation for sustainability of the forest and trees through social forestry programmes, meeting which included tribal peoples need of fuelwoods, fodder, and other forest products that are essential for the livelihood of such peoples. <sup>598</sup> The main objectives of the Policy were to increase the forest areas and protect the available resources, the policy included numerous strategies one of which was to increase the country's forest cover by encouraging afforestation along roads, railway lines, canals and streams, to check soil erosion and desertification of Green belts in urban areas, industrial areas etc.

With the help of local communities, the National Forest Policy, 1988 made a major achievement. With such support from the communities the policy helped in the increase of forest and tree cover, and also led to the protection, conservation, and management of the forest

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<sup>595</sup> The Wildlife (Protection) Act, 1972, s.51

<sup>596</sup> *Id.*

<sup>597</sup> Section 51 in The Wild Life (Protection) Act, 1972, *available at*: <https://indiankanoon.org/doc/672187/> (last visited on May 29, 2020).

<sup>598</sup> National Forest Policy-1988, *available at*: <https://neostencil.com/national-forest-policy-1988> (last visited on May 5, 2021).



through Joint Forest Management Programme. The other achievements include in-situ and ex-situ conservation which helped in conservation of biological diversity and genetic resources of the country and at the end the policy also helped in maintaining the ecological balance and environmental stability in the country.<sup>599</sup>

There are various drawbacks of the policy, for instance, there is no reliable data relating to growing stock, consumption and production of timber. Many contended that it lacked in providing solutions to recent issues.

The policies related to forests and forest management are not sufficient and many times such matters are left as it is.<sup>600</sup> Later in 2019 a draft National Forest Policy was released, the main objectives of the draft included conservation, protection and management of forests and also included safeguarding the interest of tribal and forest-dependent people. Yet, not much has been done to implement the same.

### **5.3.6. The Geographical Indication (Registration and Protection) Act, 1999**

The Geographical Indication was developed in 19<sup>th</sup> century Europe. The Geographical Indication Act was enacted by the Indian parliament in compliance with its obligation under Articles 22-24 of Part II Section III of the TRIPs Agreement. The provision requires for minimum standards of protection to the geographical indications. The Act,<sup>601</sup> provides protection to the goods originating in a country, and for availing such protection certain requirements are required like the quality and reputation of such goods must be attributable to the geographical origin. Geographical Indication is awarded to the good only if such goods be it agriculture, natural or manufactured has geographical origin to the original place or must be

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<sup>599</sup> *Id.*

<sup>600</sup> Review of National Forest Policy 1988, *available at*: <https://www.drishtias.com/daily-updates/daily-news-analysis/review-of-national-forest-policy-1988> (last visited on May 5, 2021).

<sup>601</sup> The Geographical Indication (Registration and Protection Act), 1999, (Act of 1999).

manufactured in a particular country and must identify the territory or a region or locality.<sup>602</sup>

The main aim of Geographical Identifications (hereafter referred to as GI) is to avoid confusion to consumers and also to avoid unfair competition and reputation theft. The Act provides protection to a GI against infringement only after registration is granted. For availing GI certain criteria needs to be fulfilled, after an examination the GI is technically approved. The proposed GI is then published for a period of objection before the final approval. Under section 2 (1) (e) of the Act, the criteria must be fulfilled.<sup>603</sup> Section 11 of the Act lays down the procedure for obtaining registration of a GI. Section 11 also provides provisions relating to application for GI.

<sup>604</sup> The various requirements that are required to be fulfilled are: -

- The applicant must represent the interest of the producers of the concerned goods;
- The application should contain the details of the applicant together with address. In cases of a large number of producers than a collective reference may be made in the application regarding the goods;
- The application should be addressed to the Registrar of Geographical Indications along with prescribed fee.<sup>605</sup>

The application must show the uniqueness of the product due to its geographical origin, a combination of human and natural factors. The documentation process is extremely rigorous and requires elaborate audio-visual documentation. Section 11 (2) of the Act specifies the documentation requirement for applying for the GI in India.<sup>606</sup> Rule 32 (1) of the GI Rules also

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<sup>602</sup> The Geographical Indication (Registration and Protection) Act, 1999, s.2 (e)

<sup>603</sup> The Geographical Indications of Goods (Registration and Protection) Rules, 2002, *available at*: <http://ipindia.gov.in/rules-2002.htm> (last visited on May 29, 2020).

<sup>604</sup> The Geographical Indication (Registration and Protection) Act, 1999, s. 11. Any association of persons or producers, or any organization or authority established by or under the law for the time being in force can apply for the registration of a GI.

<sup>605</sup> *Id.*

<sup>606</sup> The Geographical Indication (Registration and Protection) Act, 1999, s. 11(2)

lays down the provisions and in addition stipulates a few more documentation requirements. The time period for which a Geographical Indication is registered is 10 years and can be renewed from time to time.

In India variety of products are granted the GIs, such as “Basmati Rice, Darjeeling Tea, Kangra Tea, Feni, Alphonso Mango, Alleppey Green Cardamom, Coorg Cradamon, Kanchipuram Silk Saree, Kohlapuri Chappal, Rasgulla etc”.<sup>607</sup> Under this Act, the varieties from which the medicines prepared from certain genotypes and at a particular location having a good quality can be protected after registering it with the Controller General of Patents, Designs and Trademarks. There are few examples existing in medicinal plants where a product is known by its location such as Trinvelly Senna, Java citronella, Neemach Ashwagandha, etc.<sup>608</sup> The question regarding medicinal plants are not answered because for availing GIs product or goods must include the origin of the goods, specify specific quality reputation or other characteristics attributable to the geographical origin and any traditional value that is linked directly between the product and its origin. For medicinal biodiversity to satisfy all the above requirements is difficult. The remedies relating to the infringement of the GIs are similar to the remedies relating to the infringement of Trademarks. The various offences, penalties and procedures are laid down under Chapter VIII from section 37 to 59 of the Act.

The first Indian GI was registered in 2004, and till now 172 GIs have been registered with the GI registry of India. Most of the Indian GIs are on handicrafts, only one fourth are on agricultural products and others are based on manufacturing products. As GI gives facilities to protect the collective rights of the rural and indigenous communities, it seems more convenient

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<sup>607</sup> India: Geographical Indications Law in India, *available at*: <https://www.mondaq.com/india/trademark/655394/geographical-indications-law-in-india-everything-you-must-know> (last visited on April 20, 2021).

<sup>608</sup> R.C. Chaudhary et.al., “Geographical Indications in India Agriculture on the Anvil”, *J.Bio.Innov* 790-792 (2017).

for developing countries like India.<sup>609</sup> One of the advantages of GI is that knowledge remains in the public domains, and the rights are with the people who are located in a particular place.<sup>610</sup>

### **5.3.7. The Protection of Plant Varieties and Farmers Rights Act, 2001**

Plant genetic resources (hereafter referred to as PGRs) are the foundation for the development of food and nutrition security of any nation. Plants are rich in resources and can be used for various purposes like medicinal, industrial, cosmetics, etc. Since earlier times the PGR has been regarded as ‘heritage of mankind’ and were freely shared among each other. It was only after the issue regarding the rights of the conservers, users, breeders, framers and intellectual property was raised by the Convention of Biological Diversity there was a need to provide protection to the same. Under the Convention, the nation has sovereign rights over the conservation and sustainable utilization and access to biological diversity. India being a biologically rich country and most of the people depend upon the plant resources for numerous things. Initially, India did not have any legislation to protect the plant varieties. It was only after the adoption of the Trade Related Aspects of Intellectual Property Rights Agreement in 1994, that it became necessary to frame certain legislations that were in accordance with the provisions of the TRIPs. Article 27.3 (b) of the TRIPs agreement provides for certain conditions for implementing TRIPs Provisions.<sup>611</sup> As the Patent Act of 1970 excluded agriculture and horticulture methods of production, Indian Legislators framed a *sui generis* system which for the first time provided protection to farmers and breeders rights. The Protection of Plant Varieties and Farmers' Rights Act (hereafter referred to as PPVFR) was

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<sup>609</sup> The Protection of Geographical Indications in India: Issues and Challenges, *available at*: [http://yucita.org/uploads/yayinlar/diger/makale/8-The\\_Protection\\_of\\_Geographical\\_Indications\\_india.pdf](http://yucita.org/uploads/yayinlar/diger/makale/8-The_Protection_of_Geographical_Indications_india.pdf) (last visited on April 20, 2021).

<sup>610</sup> *id.*

<sup>611</sup> Trade Related Aspects of Intellectual Property Rights, 1994, art.27.3 (b), states that the member countries must provide protection to plant varieties either through patent or by an effective *sui generis* system or by any combination thereof.

passed by the Indian Government. It is a *sui generis* system that provides protection to plant varieties and also recognises the farmers, breeders and village communities rights.<sup>612</sup>

The Protection of Plant Varieties and Farmers Rights Act of 2001 is a *Sui generis* legislation that is farmed by India. The Act mainly provides protection to the new varieties of plants which includes registration of existing varieties and payment of compensation and benefit sharing to the community. The main objectives of the Act are to stimulate research and private breeding, to exchange technology transfer, foreign investment trade, promotion for conservation of Argo biodiversity and sustainable use of plant varieties.<sup>613</sup> The main reason for enacting this Act was to frame a legislation which was in accordance with the Article 27.3 (b) of TRIPS.<sup>614</sup> It is a *sui generis* legislation that is in sync with the provisions of TRIPS, CBD and UPOV<sup>615</sup>. The new plant varieties of plants that are essentially derived varieties, extant varieties and farmers' varieties are protected under this Act. To be protected under the Act such new varieties must be novel, distinctive, uniform and stable. Only if the criteria are fulfilled the new varieties are registered under this Act. Farmers rights weren't recognised before but under this Act, the farmers are recognised as innovators, conservers, breeders, and preservers of plants. The farmers are recognised as breeders and special arrangements for benefit sharing is also provided. The Act recognised community and farmers rights, the farmers are allowed to save, use, exchange, share and sell his farm produce of a protected variety except when the sale is for reproduction for commercial gain at the market..<sup>616</sup> The Researchers are also provided free

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<sup>612</sup> Pratibha Brahma, et.al., "The Protection of Plant Varieties and Farmers' Rights Act of India, *available at*: [https://www.researchgate.net/publication/228968363\\_The\\_Protection\\_of\\_Plant\\_Varieties\\_and\\_Farmers%27\\_Rights\\_Act\\_of\\_India](https://www.researchgate.net/publication/228968363_The_Protection_of_Plant_Varieties_and_Farmers%27_Rights_Act_of_India) (last visited on April 18, 2021).

<sup>613</sup> Malathi Lakshmikumar, Plant Variety Protection: Salient Features, *available at*: <http://14.139.60.114:8080/jspui/bitstream/123456789/730/10/Plant%20Variety%20Protection.pdf> (last visited on May 29, 2020).

<sup>614</sup> The Trade Related Aspects of Intellectual Property Rights, 1994, art, 27(3)(b)

<sup>615</sup> International Union for the Protection of New Varieties of Plants, 1991.

<sup>616</sup> The Protection of Plant Varieties and Farmers Rights Act, 2001, s.31

access to protected varieties for conducting experiments or for bona fide research purposes.<sup>617</sup>

The Act also recognises the rights of communities if they come up with evolution of new varieties, the benefit is shared if the variety is developed from indigenously derived plant genetic resources.<sup>618</sup> All categories of plants are covered under the Act but the micro-organisms aren't covered under the Act.

The Indian Protection of Plant Varieties and Farmers' Rights (PPV&FRA) Authority has identified 22 agro-biodiversity hotspots across the country. India is known as the center of the origin of cultivated plants; the country hosts about 49,000 species of flowering and nonflowering plants (18.8%), out of 260,000 described across the globe. India is rich in endemic plant species, which represent 33% of its flora.<sup>619</sup>

Under this Act, the rights of the farmers are protected and recognised, but such rights i.e. 'new farmers variety' and 'traditional farmers' varieties do not encourage the promotion and protection of traditional breeding practices that have been followed by the farming communities since ancient times. Many scholars are of the opinion that the new Intellectual Property system doesn't promote traditional innovations and also provides no in situ conservation of farmers varieties, they rather feel confident with the sharing practices that they have followed since ages.<sup>620</sup>

Though, this Act is a *sui generis* Act, there are certain limitations as it doesn't mention protection that can be provided to medicinal plant varieties. The Act recognises the rights of farmers and communities, such rights are protected only with the new plant varieties in

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<sup>617</sup> The Protection of Plant Varieties and Farmers Rights Act, 2001, s.30

<sup>618</sup> *Id.*, at, s.30.

<sup>619</sup> Biodiversity Conservation in Medicinal Plants and Protection of Plant Varieties and Farmers' Rights Act, *available at*: [https://www.researchgate.net/publication/324576855\\_Biodiversity\\_Conservation\\_in\\_Medicinal\\_Plants\\_and\\_Protection\\_of\\_Plant\\_Varieties\\_and\\_Farmers%27\\_Rights\\_Act](https://www.researchgate.net/publication/324576855_Biodiversity_Conservation_in_Medicinal_Plants_and_Protection_of_Plant_Varieties_and_Farmers%27_Rights_Act) (last visited on June 22, 2020).

<sup>620</sup> Pankhuri Agarwal, Problems with the Indian Plant Varieties Regime (V): Framers' Rights- A myth or Reality (I)?, *available at*: <https://spicyip.com/2018/10/problems-with-the-indian-plant-varieties-regime-v-farmers-rights-a-myth-or-reality-i.html> (last visited on April 23, 2021).

agriculture. It also fails to recognise that farmers' varieties, whether existing or newly bred, are the outcomes of traditional methods of natural breeding that have been followed by the farming communities for a long time. They have developed these methods together and also termed as 'collective breeding', hence, awarding individual rights over such methods causes infringement on the rights of other farmers in the community and deprives the traditional way of life that they have followed since ancient times. Even after registration, it is very difficult to prove that the farmers are availing economic returns. The Annual Reports from 2008-2017 by the Authority provide that only six applications were received for the registration of 'new farmers variety' and there is no information regarding the matter of registration certificates. There is no transparency regarding registration and so it is difficult to get the details of the applications that have been submitted and certificates issued by the Authority.<sup>621</sup> The Act being sui generis one fails to represent numerous issues that are faced by the farming communities.

### **5.3.8. The Biological Diversity Act, 2002**

Biodiversity plays an important role and helps in the functioning of ecosystems, which in turn provides us with oxygen, food, fresh water, fertile soil, fuels and other services. It is essential as it has helped in survival of the world for trillions of years. But numerous issues arose with development, climatic changes and other factors. Many animal species became extinct, and most of the species are threatened with extinction.<sup>622</sup> As per the report of International Union for Conservation of Nature, the abundance of species has declined by 40% between 1970 and 2000. There is annual loss of million hectares of forest and it has led to habitual destruction, species extinction, invasion by alien species, development programmes, climate changes and

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<sup>621</sup> *Id.*

<sup>622</sup> Report of International Union for Conservation of Nature, 2000.

pollution.<sup>623</sup> India is known for its diversified biological resources, and homes to the Western Ghats and the Northeast Himalayas, and two important biodiversity hotspots are located in India. India being a member of United Nations Convention of Biological Diversity, has enforced the same from 19<sup>th</sup> May 1994.<sup>624</sup> Under the Convention the nations are required to frame a legislation that provides provisions relating to conservation and sustainable management of India's natural resources. A legislation was required to provide protection to the biological resources and the knowledge of the local communities and to secure benefit sharing to the local people who have sustainably used the biological resources and conserved the same. Hence, after consultations with various stakeholders the Biological Diversity Act 2002 was formulated.<sup>625</sup> The Biodiversity Act covers all 'biological resources' that are found or obtained from India and knowledge associated with it. Section 2 (c), of the Act defines biological resources.<sup>626</sup>

The Act provides measures for protection of traditional knowledge, preservation of threatened species and prevention of bio-piracy.<sup>627</sup> The Biological Diversity Act, 2002 addresses the issues concerning conservation and sustainable use of biological resources, benefit sharing out of the utilization of biological resources and associated knowledge by foreign nationals, institutions, or companies.<sup>628</sup> A regulatory system has been formed under the Act that provides

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<sup>623</sup> Implement the Biological Diversity Act in its true spirit, *available at*: <https://www.downtoearth.org.in/blog/wildlife-biodiversity/implement-the-biological-diversity-act-in-its-true-spirit-63322> (last visited on April 18, 2021).

<sup>624</sup> The Biodiversity Act of India: An Introduction, *available at*: <https://corporate.cyrilamarchandblogs.com/2019/10/biodiversity-act-of-india-introduction/> (last visited on April 17, 2021).

<sup>625</sup> India's Biodiversity Act 2002 and its role in conservation, *available at*: [https://www.researchgate.net/publication/237630717\\_India%27s\\_Biodiversity\\_Act\\_2002\\_and\\_its\\_role\\_in\\_conservation](https://www.researchgate.net/publication/237630717_India%27s_Biodiversity_Act_2002_and_its_role_in_conservation) (last visited on July 1, 2020).

<sup>626</sup> The Biological Diversity Act, 2002, s.2.

<sup>627</sup> Implement the Biological Diversity Act in its true spirit, *available at*: <https://www.downtoearth.org.in/news/wildlife-biodiversity/implement-the-biological-diversity-act-in-its-true-spirit-63320> (last visited on July 20, 2020).

<sup>628</sup> *Supra* note at 625.



for access to knowledge relating to biodiversity.<sup>629</sup> Under Section 8 of the Act, a National Biodiversity Authority (hereafter referred to as NBA) is established.

The NBA performs various functions, it also provides guidelines for access and benefit sharing and provisions related to IPRs that are in accordance with the Article 8 (j) of the Convention on Biological Diversity.<sup>630</sup> The authority also coordinates the Access and Benefit Sharing (hereafter referred to as ABS) activities of the State Biodiversity Boards and the Biodiversity Management Committees (hereafter referred as BMC) by providing them with technical assistance and guidance. Under section 3 of the Biodiversity Act, the requirement is provided for proper approval from the NBA.<sup>631</sup> Rule 14 of the Biodiversity Rules, 2004 lays down the procedures for access to biological resources and traditional knowledge. For effective, efficient and transparent access procedures a prescribed format is laid down for filing an application. Only after the approval from the Authority the applicant is required to sign an agreement for access to bio-resources. Certain restrictions are laid down under Rule 15, sub rule 2 on access to biological resources and traditional knowledge. Such restrictions are imposed on resources that are endangered taxa or endemic and rare taxa or are likely to have adverse effects on the livelihood of the local people or have an adverse and irrecoverable environmental impact or cause genetic erosion or affect ecosystem function and for purpose contract to national interest and other related international agreement to which India is party.<sup>632</sup> Section 5<sup>633</sup> of the Act provides guidelines on collaborative research projects. Section 39 requires for establishment of Designated National Repository (hereafter referred to as DNR) it is an important part and is

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<sup>629</sup> The Biological Diversity Act and Rules 2004, *available at*: <http://eptrienviis.nic.in/All%20PDF%20Files/Biological%20Diversity%20Act%202002%20and%20Rules,2004.pdf> (last visited on July 1, 2020).

<sup>630</sup> The Biological Diversity Act, 2002, s.8.

<sup>631</sup> The Biological Diversity Act, 2002, s.3

<sup>632</sup> The Biological Diversity Rules, 2004, rule.15 (2)

<sup>633</sup> The Biological Diversity Act, 2002, s.5

required for conservation of biodiversity.<sup>634</sup> DNR helps in conservation of the biological resources as various specimens “consisting of all fauna, dried plant material for research, the living cells, genomes of organisms and information relating to heredity and the functions of biological systems are preserved”<sup>635</sup>. Section 4 provides the conditions that are required for transfer of any results of research of the use of biological resources and such resources are from India and are for further research or for commercialization.<sup>636</sup> The Authority is required to give approval for the transfer of results of any research that are obtained by the use of resources from India and are done for monetary consideration to foreign nationals, companies or NRIs<sup>637</sup>

The authority within a specified time period from the receipt of an application shall take a decision on it. In case of rejection of such an application the authority is required to communicate the reasons and shall give reasonable opportunity and time to the applicant for an appeal, if any (Rule 17, Sub rules 1-6).<sup>638</sup> Section 6 of the Act provides provisions relating to Intellectual property rights on inventions that are acquired by research or information based on biological resources that are obtained from India.<sup>639</sup>

The criteria for determination of equitable sharing of benefits has been laid down under section 21 of the Act, it covers the benefit sharing that results from the use of biological resources and any associated knowledge related to the biological resources.<sup>640</sup> Section 21 and Rule 20 of the

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<sup>634</sup> *Supra* note at 625.

<sup>635</sup> India's Biodiversity Act 2002 and its role in conservation, *available at*: [https://www.researchgate.net/publication/237630717\\_India%27s\\_Biodiversity\\_Act\\_2002\\_and\\_its\\_role\\_in\\_conservation](https://www.researchgate.net/publication/237630717_India%27s_Biodiversity_Act_2002_and_its_role_in_conservation) (last visited on July 22, 2020).

<sup>636</sup> The Biological Diversity Act, 2002, s.4

<sup>637</sup> *Id.*, at, s.4.

<sup>638</sup> Access and Benefit Sharing and the Biological Diversity Act of India: A Progress Report, *available at*: [https://ris.org.in/sites/default/files/article5\\_v10n3.pdf](https://ris.org.in/sites/default/files/article5_v10n3.pdf) (last visited on June 23, 2020).

<sup>639</sup> The Biological Diversity Act, 2002, s. 6

<sup>640</sup> The Biological Diversity Act, 2002, s. 21

Biodiversity Rules,<sup>641</sup> lays down that an appropriate benefit sharing provisions must be made while accessing the resources and such agreement must be in mutually agreed terms.

The NBA plays an important role as it has power to impose terms and conditions so the provisions of the equitable sharing of benefit is met with. The NBA decides the benefits which could include joint ownership of IPRs with the NBA, or if the benefit claimant is identified then ownership to such claimants and transfer of technology and other such benefits that could improve the living standards of such benefit claimants.

Also, research and development in biological resources and bio-survey among the Indian scientists, benefit claimants and the local people, or setting up of venture capital funds for benefit claimants. The biodiversity funds are established at national<sup>642</sup>, state<sup>643</sup> and local levels as provided by the Biological Diversity Act.<sup>644</sup>

Another important provision laid down under the Act, is the procedure for prior approval of transfer of research results.<sup>645</sup> Without the approval of the NBA the person isn't permitted to transfer the results of any research that is done on the biological resources from India to foreign nationals, companies etc., for monetary consideration. The NBA has the power to give such approval only after the certain conditions are fulfilled.<sup>646</sup>

The offenses under the biological diversity act are cognizable and non bailable<sup>647</sup>. The provisions of the Act have effect notwithstanding anything contained in any other law the time being in force.<sup>648</sup> Firstly, if a non-citizen and an India who is an individual or a body corporate having non-Indian participation shall if he undertakes biodiversity related activities without

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<sup>641</sup> The Biodiversity Rules, 2004.

<sup>642</sup> The Biological Diversity Act, 2002, s.27

<sup>643</sup> The Biological Diversity Act, 2002, s.32

<sup>644</sup> Constitution of Local Biodiversity Fund, *available at*: <https://lawgist.in/biological-diversity-act/43> (last visited on June 27, 2020).

<sup>645</sup> The Biological Diversity Act, 2002, s.5

<sup>646</sup> The Biological Diversity Act, 2002, Form. II

<sup>647</sup> The Biological Diversity Act, 2002, s.58

<sup>648</sup> The Biological Diversity Act, 2002, s.59

prior approval of the National Biodiversity Authority or contravenes section 3 of Act.<sup>649</sup> Secondly, if any person whether a citizen or not, transfers the outcome of the research done on biological resources for monetary consideration to any person other than the citizen of India or contravenes section 4 and lastly, any person who makes an application for an intellectual property right on an invention based of research based on the biological resources occurring in India without the approval of the National Biodiversity Authority or violates the provision laid down under Section 6 of the Act than the person will be punished with imprisonment and fine or both as are provided under section 55 to 59 of the Act.<sup>650</sup>

The other punishments laid down under the Act are if any citizen of India excluding Vaidis and Hakims who are practicing indigenous medicines, who obtains any biological resources and use it for commercial purpose or bio survey without prior approval to the State Biodiversity Board shall be punished with imprisonment and fines. If a person contravenes any direction given or order made by the Central Government, the State Government, the National Biodiversity Authority or the State Biodiversity Board for which no punishment has been separately provided under this Act then the person shall be punished according to the provisions laid down under section 56<sup>651</sup> of the Act.

Though 19 years have passed since the enactment of the Act, most of the Biodiversity Management Committees haven't properly maintained the People's Biodiversity Registers. The protection provisions provided in the Act have not been given importance and so, protection of forest and wildlife is not taken seriously by the Indian Government. During 2014, the number of threatened Indian species was 988 and it has increased to 1,056 in 2017. Due to failure of implementation of the provision of access and benefit sharing, the country loses a minimum of

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<sup>649</sup> *Supra* note 637, s.58.

<sup>650</sup> *Supra* note 639, s.59.

<sup>651</sup> The Biological Diversity Act, 2002, s.56

Rs.30,000 crores annually.<sup>652</sup> It is required that both the central and state governments should coordinate and make changes to overcome all the lacunas that exist in implementation of the Biological Diversity Act.

### **5.3.9. Biological Diversity Rules, 2004**

The Biological Diversity Rules were framed in compliance with the provision laid down under Section 62 of the Biological Diversity Act, 2002.<sup>653</sup> These rules are to be called the Biological Diversity Rules, 2004. These Rules prescribe provisions on selection, appointment, salary, allowances, conditions of service, powers and duties, etc. of the Chairperson and other Member of the National Biodiversity Authority. Rule 6 lists the general functions of the Authority. Rule 14 lays down the process for access to biological resources and associated traditional knowledge. The approval of the Authority is essential for the access of biological resources and associated traditional knowledge if it is for research or for commercial utilization and such application must be made in Form I. The Authority is duty bound to consult with the local people and collect information from the applicant and other sources if it is necessary before approving such applications. Such approval must be made only after the Authority is satisfied. Section 20 sub section 2 lays down the process for seeking approval for transferring the result of research, and the procedure for prior approval or prior consent that must be available before applying for Intellectual Property Protection or procedure for 3<sup>rd</sup> party transfer.

Rule 20<sup>654</sup> lays down criteria for equitable benefit sharing. The benefit sharing formula must be notified by the Authority in the Official Gazette. Such guidelines include provisions related to money and royalties, joint ventures, transfer of technology, product development, education

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<sup>652</sup> Implement the Biological Diversity Act in its true spirit, *available at*: <https://www.downtoearth.org.in/blog/wildlife-biodiversity/implement-the-biological-diversity-act-in-its-true-spirit-63322> (last visited on April 18, 2021).

<sup>653</sup> The Biological Diversity Act, 2002, s.62.

<sup>654</sup> The Biodiversity Rules, 2004, Rule.20

and awareness raising activities, etc. There is no fixed rule and the benefit sharing is done on the basis of cases. The Authority must see that the criteria for access and equitable sharing of benefits is met and there must be a mutual agreement between the persons applying for such approval from the Authority. It is the duty of the Authority to see that the benefits decided must be paid directly to the individual or group of individuals or organizations. One of the most important Rules is laid down under 22 which requires for the constitution of Biodiversity Management Committees.<sup>655</sup> The BMC consists of a chairperson and other 6 persons including women and 18% must belong to SC/ST. BMC are constituted in villages as well as in districts and their main function is to prepare the People's Biodiversity Register (hereafter referred to as PBR) in consultation with local people. The registers must be maintained by the Committee and must include information about the resources that are available, the register must include information about the medicinal plants and the traditional use of such plants. The BMC also advises the State Biodiversity Board or Authority for matters related to access of resources. PBRs include information related to the access to biological resources, the available medicinal resources, traditional knowledge and also include the other information related to fees and the use and benefits that has been derived. Such a register must be made in consultation with the local people. A well maintained PBR can be a step towards documentation of available bio-resources and associated knowledge of a certain people.

Every State of India is required to frame State Biodiversity rules in accordance to the Section 62 of the Biological Diversity Act, 2002. The North Eastern States of India have their own Rules. They are:

1. The Assam Biodiversity Rules, 2010
2. The Mizoram State Biological Diversity Rules, 2010
3. The Meghalaya Biological Diversity Rules, 2010

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<sup>655</sup> The Biodiversity Rules, 2004, Rule.22

4. The Arunachal Pradesh (Biological Diversity) Rules, 2011
5. Tripura Biological Diversity Rules, 2006
6. The Nagaland State Biodiversity Rules, 2012
7. Sikkim State Biological Diversity, 2006
8. Manipur Biological Diversity Rules, 2008

They have common rules but are different from each other.

The main aim of framing such rules is to see that the objectives of the Biodiversity Act are met with. Most of the provisions are the same; almost all the eight state rules have similar rules as that of the Biodiversity Rule of 2004. The states have enacted the rules in different time periods. The Rules include the title and commencement, definitions, the manner of selection and appointment of the Chairperson and some other rules are the same as that in the Rules of 2004. The States are required to form a Biodiversity Management Committee. The main aim of the Committee is to maintain PBRs in consultation with the local communities.

Each state has tried their best to implement the provisions laid down under the Rules. The NER of India consists of eight states and they have made certain implementation of various provisions laid down under the Biodiversity Rules, 2004. The State of Manipur has established 1344 Biodiversity Management Committees to save and conserve biodiversity. Together with this they also spread awareness among the public and students about the importance of biological resources.<sup>656</sup> According to a report by Manipur Biodiversity Board on 23 September, 2020, the state proposed to constitute 2282 BMC across the state at all levels and 1908 BMCs had been constituted. At the village level the Board has maintained 37 PBRs and at District level 18 PBRs are being completed.<sup>657</sup> The State of Arunachal Pradesh has constituted 165

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<sup>656</sup> 45 biodiversity management committees set up in Manipur, *available at*: <https://easternmirrornagaland.com/45-biodiversity-management-committees-set-up-in-manipur/> (last visited on May 6, 2021).

<sup>657</sup> Report by Manipur Biodiversity Board, 23/09/2020, *available at*: <http://www.indiaenvironmentportal.org.in/content/468558/report-by-manipur-biodiversity-board-23092020/> (last visited on May 6, 2021).

BMCs and 41 PBRs are under process.<sup>658</sup> Assam has constituted 189 Biodiversity Management Committees at different levels and there are more than 25 PBRs that are being prepared. Meghalaya has district wise 5464 BMCs<sup>659</sup> and has initiated the process for the preparation of 25 PBRs.<sup>660</sup> Mizoram has constituted 222 BMC and has documented 5 PBRs.<sup>661</sup> The State of Mizoram has also established 8 Technical Support Groups for 8 districts for the purpose of guiding and providing technical support to the BMC; there are 1119 BMCs in Nagaland. The Nagaland Government has also constituted a Nagaland Bioresource Mission (hereafter referred to as NBRM) which aims to promote and develop the bio-resources of the state, and also initiatives to provide a source of income to the people. A holistic approach has been adopted by the NBRM to conserve, develop and utilize bio-resources of the state. The main aim of this plan is to provide protection to the available resources and also to help the people of the state earn some income. For this the mission has implemented its activities under two schemes first the state plan and the centrally sponsored scheme under National Mission on medicinal plants. Apart from this the Mission has initiated various awareness programmes that are for helping the farmers in the district and block level. Various training programmes have been conducted to provide information regarding the conservation, cultivation and harvesting at village level. Under the Mission 48 villages Bio resource management committee were formed.<sup>662</sup> In the State of Sikkim 49 BMC has been constituted and 4 PBRs completed.<sup>663</sup> Apart from this the BMC have undertaken various awareness programs to spread the importance of biological

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<sup>658</sup> Arunachal Pradesh Biodiversity Board, *available at*:

[https://greentribunal.gov.in/sites/default/files/news\\_updates/Status%20report%20of%20Arunachal%20Pradesh%20Biodiversity%20Board%20in%20O.A.%20347%20of%202016.pdf](https://greentribunal.gov.in/sites/default/files/news_updates/Status%20report%20of%20Arunachal%20Pradesh%20Biodiversity%20Board%20in%20O.A.%20347%20of%202016.pdf) (last visited on May 6, 2021).

<sup>659</sup> Meghalaya Biodiversity Board, Biodiversity Management Committee, *available at*:

<https://megbiodiversity.nic.in/bmc-district-wise> (last visited on May 6, 2021).

<sup>660</sup> Meghalaya Biodiversity Board, *available at*: <https://megbiodiversity.nic.in/peoples-biodiversity-register> (last visited on May 6, 2021).

<sup>661</sup> Mizoram State Biodiversity Board, *available at*: <https://forest.mizoram.gov.in/page/mizoram-state-biodiversity-board> (last visited on May 6, 2021).

<sup>662</sup> Nagaland Bioresource Mission at glance, *available at*: <https://morungexpress.com/nagaland-bio-resource-mission-glance> (last visited on May 6, 2021).

<sup>663</sup> Sikkim Biodiversity Board, *available at*: <http://sbbsikkim.nic.in/pbr.html> (last visited on May 6, 2021).



resources. Tripura has constituted 58 BMC at Block level and 20 at municipality level and 1178 at village level<sup>664</sup> and 75 PBRs includes information relating to availability and knowledge of biological resources, traditional knowledge associated with it, it also includes data about the local vairs and practitioners who use the biological resources, and also includes various interviews, field observations by volunteers and other technical support groups.<sup>665</sup> Hence, all the states have constituted a number of BMC and also prepared PBRs, but there are still various places where people do not understand the importance of bioresources and traditional knowledge, due to the very reason numerous biopiracy case, hunting are taking place, which are mostly off the record.

The Biological Diversity Act was implemented for the purpose of conserving the ecological and biological resources, and certain conservation strategies were implemented for the same. The primary aim of the Act is conservation and sustainable use, and benefit sharing of resources available in the country.<sup>666</sup> But after 20 years of enactment there are various drawbacks of the Act. The guidelines that talk about benefit-sharing, are totally silent on ‘sharing’ of benefits that arise out of the utilization of resources.<sup>667</sup> Every individual needs to contribute for the protection of biodiversity and to curb threats that are imposed on it. Awareness regarding protection and restriction on over exploitation needs to be addressed. Apart from the Act, the rules must be implemented by all the states and the states must see that such rules are being followed. There are many states where the BMC is not doing their functions properly, there are very few states that have prepared the Peoples Biodiversity Registers and maintained it.

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<sup>664</sup> Tripura Biodiversity Board, *available at*: <https://biodiversity.tripura.gov.in/bmc> (last visited on May 6, 2021).

<sup>665</sup> Tripura Biodiversity Board, *available at*: <https://biodiversity.tripura.gov.in/pbr> (last visited on May 6, 2021).

<sup>666</sup> A critique of the Biodiversity Act: legal loopholes and the way forward, *available at*: <https://blog.ipleaders.in/critique-biodiversity-act-legal-loopholes-way-forward/> (last visited on May 10, 2021).

<sup>667</sup> *Id.*

### **5.3.10. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Rights)**

#### **Act 2006.**

The Tribal Communities are one of the vulnerable groups in society and have been facing injustice since the colonial period. The main purpose of the Act was to safeguard their rights and, in a way, to undo the historical injustices suffered by them. The Tribal communities lived in close contact to nature, and near India's forest lands, but had no legal rights to their homes, lands or livelihoods.<sup>668</sup> The Indian Forest Act, 1927 did not recognise the rights of the forest dwellers who reside in the forest and often declared forest as the government forests without availing information of who lived in these areas or what land they were using. In the past more than 82% of forest blocks of Madhya Pradesh and 40% of the reserved forests of Orissa were never surveyed. The process of enquiry and settlement of more than 60% of India's national parks are still incomplete. In the name of conservation various forest dwellers rights are being infringed as such land acquisition causes displacement of peoples who have resided in such areas since time immemorial.<sup>669</sup>

To do away such injustice the Draft Schedule Tribes (Recognition and Forest rights) Act, 2005 was presented before the parliament. But, there was strong opposition to the draft by two groups. First, few environmentalists advocate management of forest, wildlife and other biodiversity with complete exclusion of tribal people, local communities or forest dwellers contrary to the Rio Declaration, decisions of the Conference of Parties of the CBD and recommendations of the United Nations Forum on Forest. Secondly, the Ministry of

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<sup>668</sup> The Forest Rights Act, A Weapon of Democracy in the Forests, *available at*: <https://forestrightsact.com/what-is-this-act-about/> (last visited on July 22, 2020).

<sup>669</sup> Anjoo B. Sharma, The Indian Forest Rights Act (2006): A Gender Perspective *available at*: <https://journals.sagepub.com/doi/10.1177/2455632717716258> (last visited on July 25, 2020).

Environment and Forest had opposed the Bill on the ground that implementation of the bill could result in the depletion of the country's forest cover by 16%.<sup>670</sup>

Hence, after various public debates for more than a year, the Schedule Tribes (Recognition of Forest Rights) Bill, 2005 which was later named as "The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 was passed in the parliament on 13 December 2006. The main aim of the Act is to provide protection to the rights of Scheduled Tribes and other traditional forest dwellers who have resided in such forest from generations and whose rights could not be recorded. The Act aims to provide evidence or recording of the rights of forest dwellers.<sup>671</sup> One of the most important rights guaranteed under the Act is to protect traditional Forests.<sup>672</sup> The community has the right to conserve, cultivate and protect the forest resource that they use and are also empowered to protect trees, biodiversity, wildlife, water sources etc. in any forest. It is the function of gram Sabha or any other village institution or even individual forest rights holders to protect wildlife, forest and biodiversity.<sup>673</sup> Under section 4(3) of the Act it has been laid down that if any land is claimed by an individual or a community under any part of this Act then they should have such land under their occupation since before December 13<sup>th</sup>, 2005, and should still be in their possession at the time of making the claim. Forest dwellers have the right to claim over minor forest produce.<sup>674</sup> The rights to minor forest produce includes those minor forest produce that have

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<sup>670</sup> The Indian Forest Rights Act 2006: A critical appraisal, *available at*: [https://www.researchgate.net/publication/265000880\\_The\\_Indian\\_Forest\\_Rights\\_Act\\_2006\\_A\\_critical\\_appraisal](https://www.researchgate.net/publication/265000880_The_Indian_Forest_Rights_Act_2006_A_critical_appraisal) (last visited on July 23, 2020).

<sup>671</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, *available at*: <https://www.indiacode.nic.in/bitstream/123456789/8311/1/a2007-02.pdf> (last visited on July 22, 2020).

<sup>672</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, ss. 3(i), 5.

<sup>673</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, s.5

<sup>674</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, s. 2 (i) provides definition of "minor forest produce" includes all non-timber forest produce of plant origin including bamboo, brush wood, stumps, cane, tussar, cocoons, honey, wax, lac, tendu or kendu leaves, medicinal plants and herbs, roots, tubers and the like;

been “traditionally collected” from within or outside village boundaries.<sup>675</sup> The Forest Rights Act also provides for rights to in situ rehabilitation and alternative land in case of illegal eviction or forced displacement.<sup>676</sup> Section 3(1) of the Act provides that “any other traditional right” of forest dwelling communities can be claimed as a right under the Act, excluding hunting. This section can be used to claim rights such as shifting cultivation, both individual and collective; customary individual or community claims over territory; right to use religious sites / burial sites; right to collect timber for housing or types of produce not covered under minor forest produce, etc. Each Gram Sabha is to elect a ten to fifteen-member Forest Rights Committee having duties, receiving claims from people, for this, the Forest Rights Committee is responsible for making out the application, which has to be passed by the gram sabha as a resolution after modification if necessary. It is necessary to provide evidence along with the claims that they submit. The Forest Rights Committee can also ask for additional help/ assistance from government officials, who are required to provide that help. On any written request from the Committee, the government must provide documents and explain them to the committee members. The Sub-Divisional Level Committee has to provide forest and revenue maps as well as voter lists of the area. The committee can then decide whether the claim is correct or not. Finally, the list and the maps are presented before the gram sabha, if the sabha agrees then a resolution endorsing the list and maps will be passed. If it does not agree then changes can be made appropriately and passed. If any claimant is not satisfied with the Gram Sabha’s decision, he/she can appeal to the Sub-Divisional Level Committee,<sup>677</sup> consisting of Sub-division; Tribal Welfare Official at the sub-divisional level, or the official who looks after that subject; representative of Block/Taluka Panchayat nominated by the Zilla Parishad;

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<sup>675</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, S. 3 (1) (c and d).

<sup>676</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, Ss. 3 (1) (m), 4(8).

<sup>677</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, s.6(2).

representative of Block Panchayat nominated by the Zilla Parishad. The Act provides protection against forcible relocation of people living in protected areas. Notwithstanding the claims by the government and the press, Section 4 (2) (e) provides that no one can force the forest dwellers to move out unless their consent is freely availed by the gram sabha.<sup>678</sup> The Act still lacks in numerous ways. It still lacks reliable baseline or periodic progress data for analyzing the actual impact of implementation. Most of the time the other Traditional Forest Dwellers (hereafter referred to as OTFD) are left out and there exists no documentation. OTFD hamlets are often left out of intervention entirely and interactions/meetings are limited to a few ST leaders.<sup>679</sup>

#### **5.4. RECENT POLICY INITIATIVES FOR PROTECTION OF MEDICINAL PLANTS**

One-sixth of Indian plants have medicinal attributes. India has over 50,000 herbal formulations attributed under traditional knowledge, and it falls in the field of Ayurveda, Unani, Siddha, Yoga and Tibetan medicine and folk tradition. The huge demand of medicine and over cultivation of plants has led to rare, endangered, critical and extinct states of such plants.<sup>680</sup> There are many instances when the medicinal plants of developing countries are misappropriated. Due to such cases various legislative efforts were made and provisions for conservation and sustainable use of medicinal resources were introduced.<sup>681</sup> Apart from the national legislations there are various initiatives that have been adopted to provide protection to the medicinal resources of India.

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<sup>678</sup> The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, s. 4 (2) (e).

<sup>679</sup> Why India's Forest Rights Act is discriminatory against non-tribal, *available at*: [https://www.business-standard.com/article/economy-policy/why-india-s-forest-rights-act-is-discriminatory-against-non-tribals-118070200116\\_1.html](https://www.business-standard.com/article/economy-policy/why-india-s-forest-rights-act-is-discriminatory-against-non-tribals-118070200116_1.html) (last visited on May 10, 2021).

<sup>680</sup> Conserving the medicinal plants, *available at*: <https://pibindia.wordpress.com/2016/08/31/conserving-the-medicinal-plants/> (last visited on April 19, 2021).

<sup>681</sup> "Law, Policy & Management of Medicinal Plants in Kashmir: A Study from Geographical Indication Perspective", *available at*: <http://ir.amu.ac.in/12144/1/T10002.pdf> (last visited on August 29, 2020).

#### **5.4.1. Traditional Knowledge Digital Library (TKDL)**

With an increase in the number of bio-piracy cases, there was an urgent need to provide protection and preservation of traditional knowledge of India. To stop the grants of wrong patents on our traditional knowledge a strong, critical and scientific approach was required. It was then the Department of Indian System of Medicine and Homoeopathy (hereafter referred to as ISM&H) established an interdisciplinary Task Force which came up with the idea of creating a Traditional Knowledge Digital Library (hereafter referred to as TKDL). TKDL is an electronic database of traditional knowledge especially in the field of medicinal plants. The main aim of creating TKDL was to avoid grant of wrongful patents and a way to safeguard the traditional knowledge of the country. At first the Cabinet Committee on Economic Affairs approved the establishment of TKDL in Ayurveda, later on other systems of Indian medicines, such as Unani, Siddha, Yoga Naturopathy etc. followed by similar digital libraries.<sup>682</sup>

As there were various cases of wrongful patent claims the main aim of creating the database was to provide the Patent Officers all over the world a way to search and examine any prevalent use/prior art. The TKDL was a register that could be looked up by any Patent Office so that they can prevent wrongful grant of patents that are based on knowledge in the public domain, including knowledge associated with medicinal plants.

The Creator of TKDL found that out of 4896 references on 90 medicinal plants in the United States Patents & Trademarks Office (USPTO) patent database, 80 percent of the references were on seven medicinal plants of Indian origin. The TKDL is accepted at the international level. With its effectiveness the TKDL has been selected for pilot study by 170-member states. TKDL has helped in overcoming the barrier of language and converted the Indian Systems of

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<sup>682</sup> Traditional Knowledge Digital Library (TKDL), *available at*: <https://www.csir.res.in/documents/tkdl> (last visited on August 27, 2020).

Medicines like Ayurveda, Siddha, Unani and Yoga into systematic and scientific Programme that is available in five international languages i.e. English, Japanese, French, German and Spanish.<sup>683</sup> The tool for establishing the database was done with the help of Traditional Knowledge Resources Classification (hereafter referred to as TKRC).<sup>684</sup> TKRC has helped in inclusion of about 200 sub-groups under A61K 36/00 in International Patent Classification instead of a few sub-groups that were earlier available on medicinal plants under A61K 35/00. Due to this increase the quality of search and examination related to prior art has enhanced.<sup>685</sup> TKDL is available in open domain and can be obtained by any individual or organization at national and international level. TKDL acts as a bridge between the prior art and examiners of patents. There are pre-grant oppositions filed against various International Patent Offices. After the establishment of TKDL many wrong patent applications have either been rejected, removed or revised, based on the prior art evidence available in the TKDL database without any cost. TKDL is regarded as a strong tool for providing protection to Traditional Knowledge from unlawful rights and exclusive IP rights over such TK. Through these the available knowledge can be protected and can be available for coming generations too. The main aim of this Library is to ensure that wrong patent rights are not granted and not to restrict the use of traditional knowledge.

#### **5.4.2. Task Force on Conservation and Sustainable Use of Medicinal Plants**

The conservation and sustainable use of medicinal plants was to be done effectively and for the same reason the Planning Commission constituted a Task Force that was chaired by Dr. D.N. Tewari, Member, Planning Commission in 1999. The main aim was to provide policy

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<sup>683</sup> About TKDL, *available at*: <http://www.tkdل.res.in/tkdل/langdefault/common/Abouttkdl.asp?GL=Eng> (last visited on 28 July, 2020).

<sup>684</sup> *Id.*

<sup>685</sup> *Id* at 674.

directives and measures for sustainable use of available resources and to encourage the domestic and international trade with introduction of patent rights and IP rights on medicinal resources. The other objective was to achieve an equitable marketing system and developing the pharmaceutical companies. The medicinal biodiversity of India is valuable and it is also a part of traditional knowledge of various communities as they have applied their understanding to develop and use the same since ages. In the report by the Task Force importance was given to medicinal plants and its conservation for economic developments that are sustainable in nature. For the purpose of sustainable and equitable development of medicinal plants, more than 200 Medicinal Plants Conservation Areas (MPCA), and 200 'Vanaspati Vans' were established the other suggestions included changes in Indian legislations to strengthen the protection of its intellectual property rights related to medicinal plants. Lastly, they recommended the creation of digital databases of India's traditional knowledge which could be provided as evidence on issues relating to wrongful claims of patent.<sup>686</sup>

The Task Force had made recommendations for establishment of the Medicinal Plants Board. But such Boards lack adequate staff and other physical infrastructure. It is essential that sufficient manpower and There requires a strong coordination among all the departments for better the functioning of the Board.<sup>687</sup>

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<sup>686</sup> Harbir Singh, Prospects and Challenges for Harnessing opportunities in Medicinal Plants Sector in India, available at: <http://lead-journal.org/content/06196.pdf> (last visited on August 24, 2020).

<sup>687</sup> *Supra* note at 677.



### 5.4.3. Patents Act, 2002 and 2005

In India, there is a question as to whether the biological resources can be patented or not, many are in favour of no patents but others fully support patents. The first Indian Patent Act, 1970<sup>688</sup> exempted the patent on the field of health and food. But, the TRIPs provisions were different and hence, the provisions of Indian Patent Act were found to be contradicting the TRIPS Agreement which requires that all WTO members introduce product and process patents in all fields of technology. Hence, the Indian Parliament amended the Patents (Second Amendment) Act, 2002 in May 2002 and the Patents (Third Amendment) Act, 2005 in April 2005. The Patent Act, 2005 had a number of additions, like Section 3 of the Act for the first time provided exclusions of traditional knowledge from patentability.<sup>689</sup> The simple rule was the criteria of prior art, as the knowledge is already in public domain and it cannot be patented. Hence, it is important to read this provision when certain claims are made on the traditional knowledge. The main question is if an invention is based on traditional knowledge, can it be denied intellectual property rights through patents? but the answer to this question is not available and this demands for a proper and specific definition of patentable inventions. Under section 84 the provision for compulsory licensing is laid down. According to this section the provisions that the patents granted should not affect the public health, and such patents also should not prohibit the central government from taking measures to protect public health. The main aim of this provision is to see that such patented inventions must be available to all at affordable prices.<sup>690</sup> But the compulsory licensing under this Act could not be regarded as a substitute for strong health-related provisions. Later, the Amendment Act of 2005 was made fully compatible with TRIPS mandates. The Act nowhere provides the provisions for proper use of traditional

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<sup>688</sup> The Patent Act, 1970, s.3(d).

<sup>689</sup> The Patent (Amendment) Act,2005, s.3

<sup>690</sup> The Patent (Amendment) Act,2002, s.84

knowledge nor has any provisions for protecting the local health systems. With lots of changes which are against the public health and against the protection of TK, but just by being TRIPs compatible has made it acceptable and was not discussed and debated as the previous Patent Acts.

#### **5.4.4. National Medicinal Plant Board**

The Government of India set up the National Medicinal Plants Board (hereafter referred to as NMPB) on 24<sup>th</sup> November 2000 to promote the medicinal plant sector. The Board is currently working under the Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha & Homoeopathy (hereafter referred to as AYUSH), Government of India. The main aim for establishment of NMPB was to develop an appropriate mechanism for coordination between various ministers/departments/organization and implementation of support policies for conservation, cultivation, trade and export of medicinal plants sectors.<sup>691</sup> The main functions of the Board is to see that the wild resources that are required for medicinal purposes are conserved. The Board focuses on in-situ and ex-situ conservation of medicinal plant species. They also spread awareness among the people and promote research and development capacity buildings through training, and different activities.<sup>692</sup>

There are other initiatives including the establishment of the National Medicinal Plants Board under the Union Health Ministry to set up export promotion Zones. Such National Medicinal Plants Board as are established in the states of Tamil Nadu, Andhra Pradesh, Gujarat, Haryana

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<sup>691</sup> National Medicinal Plant Board, *available at*: <https://www.nmpb.nic.in/about-us> (last visited on August 27, 2020).

<sup>692</sup> *Id.*

and Rajasthan, exclusively for medicinal plants and herbal products as they have a well-developed base for cultivation and processing of medicinal herbs.<sup>693</sup>

Other than the above-mentioned initiatives, there is a Central Government's Scientific Advisory Committee, which was constituted and has the advisory power. The Committee can advise the Prime Minister on science, technology, as well as innovation.<sup>694</sup> The committee identified 45 medicinal plants. With the aim of protecting the medicinal plants, the Committee identified key issues, and a nodal agency to address the issues and also to recommend actions that could be undertaken to address the issues that focus on the medicinal plants. Apart from this the National Bank for Agriculture and Rural Development (hereafter referred to as NABARD) has been identified as the nodal agency for financial purposes and the Medicinal Plant Board for establishing linkages. The main function of the Medicinal Plant Board was to look into the matters related to conservation and sustainable use of medicinal plants which would help in some economic gains of the farmers. An action plan was made for the Board which included the activities like encouraging the people for cultivation of selected medicinal plants which would be bought by them at good return, registering raw drugs traders and easy transit permit for transportation of raw drugs, the 'priority medicinal plants'<sup>695</sup> that are in demand at international and national markets to be cultivated. The plan also encouraged the Boards to adopt measures for the overall development of the medicinal plants sectors, so as to provide registration to farmers, cultivators and traders of medicinal plants. Together with this

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<sup>693</sup> *Supra* note at 677.

<sup>694</sup> Anonna Dutt, "Centre constitutes new scientific advisory body to the Prime Minister", *The Hindustan Times*, August 28, 2018, available at: <https://www.hindustantimes.com/india-news/centre-constitutes-new-scientific-advisory-body-to-the-pm/story-GtZYRVWt027ORlweAu0NcJ.html> (last visited on August 27, 2020).

<sup>695</sup> Thirty-one selected priority medicinal plants were later reduced to 28 subsequently in draft policy on ISM 2001 based on recommendation of three expert committees.

the Board were also required to put efforts to encourage people participation so they could be aware of the value of medicinal plants.<sup>696</sup>

## 5.5. CONCLUSION

The preceding pages highlight the legislations that are available for protection of medicinal biodiversity in India. There is no doubt that there are legislations that provide protection to the forest, the environment, the farmers rights etc., but there exists not a single legislation that provides the protection of the medicinal biodiversity specifically present in India. The Indian Forest Act is one of the most stringent Act and is solely responsible to check the extraction process of medicinal plants, but it lacks in showing how the forest is home to different resources and why is it necessary to protect the available resources. The failure to check illegal extraction has led to numerous biopiracy and smuggling that are mostly off the record. Most of the time they are concerned with timber and fuel wood collection operations and fail to look into matters related to the exploitation and smuggling of medicinal plants.

The Environment Protection Act is regarded as an umbrella legislation, but it still needs changes and reviews in the light of newer problems, like new diseases, pollutants and its impacts, population, poverty and urbanization. With huge interest in biotechnological inventions it is necessary to see if the presence or absence of any particular organism in such numbers could hamper the ecosystem and food-cycle. With genetic engineering, and introduction of new types of species, there is a need to be ready for unexpected dimensions.

The Biodiversity Act, 2002 though is one of the few Acts that mentions the provisions for protection of traditional knowledge and the rights of indigenous communities but, not much has been done as most of the provisions are either not followed or most of the times not clear.

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<sup>696</sup> *Supra* note at 686.

For example, the cases of biopiracy that are taking place, the researchers or the companies do not avail permission from the National Biodiversity Authority. Similarly, the benefit sharing provisions are not executed many times leading to loss of economic rights of the indigenous communities.

Similarly, The Indian Forest Rights Act 2006, does not take into account the fact that hundreds of forest dwelling scheduled tribes face charges under different provisions of the Forest Conservation Act of 1980 for accessing minor produce. Such charges under the Act are excessively harsh and severe to them and Indian Forest Rights Act 2006, fails to address charges that are pending against the tribal peoples under the Forest (Conservation) Act of 1980 and Indian Forest Act of 1927. Though, there are provisions that lay down that the tribal people have legitimate ownership over the minor forest produce and their role in conservation of forest. As they are considered as the legitimate owners their charges could be closed but the Act provides no provisions for the same. Even with numerous legislations, India has become a victim of biopiracy, there are various cases of biopiracy that are off the record.

With huge demand from various industries has led to over cultivation of the plant resources which has in turn made them rare, endangered, critical and at an extinct state. Dr. S K Niraj,<sup>697</sup> leading Trade record Analysis of Flora and Fauna in Commerce, (hereafter referred to as TRAFFIC) highlighted the need for preservation and conservation of medicinal plants that resulted in the mass extinction due to the growing commercial demand. various reports provide that several plants in India have become extinct. Likewise, numerous species found in the Himalayas, in Peninsular India and the Andaman and Nicobar Islands are under serious threats

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<sup>697</sup> Dr. Shekhar Kumar Niraj is the first Director of AWIC in the rank of Additional Principal Chief Conservator of Forest and Director.

of extinction'.<sup>698</sup> There are only 6 medicinal plants that are protected under the Indian Wildlife Protection Act of 1972 and no other species has been added to the list. The Act provides protection to various animal species but the plant species are very less in number. Mr. M.K. Ranjeet Singh, the former forest secretary of Madhya Pradesh asserts that almost 70% of the medicinal plants are harvested in destructive manner.<sup>699</sup> According to Dr. S K Niraj, for the properties of a medicinal plant to be intact, it requires a suitable environment and a proper harvesting procedure. With an unsuitable environment the value of the medical properties could be affected and it would result in manufacturing of ineffective herbal medicines. Most of the income of the tribal population is based on cultivation and use of medicinal plants so, it is necessary that various initiatives are introduced so that the tribal people can learn more about the techniques and develop products through which they can avail economic benefits. Without a strict plan of conservation, the available medicinal plants can be misappropriated and lost. Hence, awareness and policy must be implemented so as to avoid extinction of medicinal plants available in India.

After going through the available legislations in India one thing is clear that a specific legislation i.e. sui generis legislation is required to protect the medicinal biodiversity in India as the available laws are insufficient to provide protection.

Medicinal plant species are increasingly under threat. In an assessment carried out by South Indian NGO, provided that at least 120 medicinal species were officially classified as endangered and also provided that of 78 plants occurring in the three states of Kerala, Karnataka and Tamil Nadu only 21 were at low risk. Ignorance and lack of knowledge on vast

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<sup>698</sup>Conserving the Medicinal Plants, *available at*: <https://pibindia.wordpress.com/2016/08/nd31/conserving-the-medicinal-plants/> (last visited on April 19, 2021).

<sup>699</sup>Rantandeep Banerji, "Conserving the Medicinal Plants", *Press Information Bureau*, *available at*: <https://pibindia.wordpress.com/2016/08/31/conserving-the-medicinal-plants/> (last visited on April 19, 2021).

biological resources has led to depletion of the available resources. Hence, it is important that sui generis legislation is introduced for the protection of the available medicinal resources.

## CHAPTER SIX

### CONCLUSION AND SUGGESTIONS

Biological resources including plants, animals and microorganisms are essential part of traditional knowledge of indigenous and tribal communities. Such use or knowledge has been developed through numerous tests or trials and it provides them with alternative means of health care and nutrition. Recent instances show how the traditional knowledge that is based on the use of medicinal plants are easily exploited. Main reason for its exploitation is because there exists no legislation that provides protection to the medicinal biodiversity and the rights of the indigenous peoples over such use and their knowledge aren't recognised. Since, the traditional knowledge isn't recognised or protected, the patents are being granted by acknowledging it to be novel. This leads to infringement of the rights of the traditional communities who hold traditional knowledge since time immemorial. Their rights to get a legitimate share of benefits from the persons, companies or research institutes who have availed patents have been rejected leading to infringement of their rights. Once the patent gets granted it takes a long time to provide evidence and revoke such patents. Most of the time such knowledge gets misappropriated because they are orally transferred. Biopiracy on traditional knowledge associated with medicinal plants is very common in India. The cases of biopiracy and misappropriation are not new to India, such misuse has been experienced since colonial times. With new developments, globalization and biopiracy led by Intellectual Property Rights has led to the theft of biological resources and infringement on the rights of the indigenous communities. Globalization has three impacts: - first of all there are many legal mechanisms that are created to control the management of vast territories and such activities are done in the name of conservation. This has led to displacement of indigenous peoples who have lived in such areas, they are not considered as a part of conservation when their homes are the land that



gets taken away. Second impact is that it has exponentially increased the chances of acquiring first-hand information about the knowledge of indigenous peoples based on plants, animals and other organisms, thus becoming medicinal prospects for pharmaceutical industries. Lastly, constant involvement of outsiders has caused complex changes in their tradition, cultures and also led to exploitation of the natural resources.<sup>700</sup>

The medicinal resources be it from plants or animals are very precious and such use has been followed for since ages for other purposes. Due to ignorance and misappropriation the medicinal resources are in danger of becoming extinct. Such medicines are also over-exploited by traditional or alternative medicine like Ayurveda, Yoga, Unani, Siddha and Homoeopathy in India. Such overuse can lead to loss of resources. As the medicinal plant species are easily available in the forest areas they become misappropriated or misused easily. Without a special Act to protect these rare species the loss can be huge. The available laws like the Wild Life (Protection) Act, 1972 only cover a few of the varieties. The other resources with medicinal properties are often collected illegally and traded. Due to misappropriation of medicinal plants species they are provided status of RET (Rare, Endangered and Threatened) Species. With such an increasing threat to the resources it is necessary that the central and state government enact special laws to protect and conserve the valuable medicinal plant species before the resources become extinct.

India is a member of the TRIPs Agreement and has framed its Intellectual Property legislation in compliance with it. TRIPs favours private rights over community rights, and provides an exclusive right to an inventor or a researcher. The developments in India must not be at the cost of the biological resources and rights of indigenous communities. As patents can be

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<sup>700</sup> State of the World's Indigenous Peoples, *available at*: [https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP\\_web.pdf](https://www.un.org/esa/socdev/unpfii/documents/SOWIP/en/SOWIP_web.pdf) (last visited on September 23, 2021).

claimed over any invention that is novel, have an inventive step and industrial application the issue related to origin of the resources that was used to invent a product and also the approval of using such resources from the people who had been using the same must be availed. This is one way through which the rights of indigenous communities who have used such medicinal resources can be protected. North Eastern Region of India, has a vast amount of biodiversity, the richness has been celebrated and discussed by many. The endangered species of plants and animals are something that needs to be protected. The existing legislation fails to provide protection, as there are numerous cases of bio piracy, illegal wildlife trade and smuggling instances. In India, such incidents are still not over because the rich resources of India are misappropriated.

The main aim of this research is to highlight the issues relating to protection of Medicinal Biodiversity and the recognition of the rights of the Indigenous Peoples in the North Eastern Region of India. The hypothesis framed are *“Inadequacy of legislation led by misappropriation of medicinal biodiversity is adversely affecting the Intellectual Property Rights of Indigenous People in North Eastern Region of India”*.

*“A Sui generis legislative protection of the Rights of Indigenous Communities in North Eastern Region of India would provide Protection to the Medicinal Bio-diversity of the Region”*.

Hence, to test the hypothesis various research questions were framed. As mentioned the main aim of this thesis is to highlight the plights of indigenous peoples or communities of NER and to see how the available legislations are inadequate to provide protection to the medicinal biodiversity in NER of India. The main problems and issues are discussed in length in chapter 2. This chapter provides information regarding all the problems that the indigenous peoples face due to no recognition of their economic rights, likewise the issues relating to biopiracy, illegal trade in NER of India has been discussed. This chapter is the center of the thesis as all the problems provide an understanding on why this thesis is conducted.

Similarly, the question regarding the conflict between the International Instruments i.e. CBD and TRIPs have been discussed in chapter 3. The main reason for issues of biopiracy, misappropriation of resources and infringement of rights of indigenous peoples is due to the conflicts between the provision of two instruments. Hence, various provisions in conflicts have been explained in detail and how it has affected the protection of medicinal biodiversity and the rights of indigenous peoples. This chapter provides an insight on how the conflict has challenged the rights of indigenous peoples and protection of medicinal biodiversity and why it is necessary to provide a solution to the same.

Chapter 4 highlights how the international instruments fail to provide protection to the rights of indigenous peoples. Various International Instruments have been analysed in this chapter and how such instruments have failed to acknowledge the rights of the indigenous peoples as the owner of the medicinal resources and traditional knowledge that they have developed by applying their understandings. The failure to acknowledge their rights and no specific legislation or instruments to protect their rights is the main cause for infringement of their economic rights. The chapter provides an answer to the question of how the international instruments lack at providing protection to the indigenous peoples.

Lastly, the question relating to inadequacy of national legislation in providing protection to the available medicinal resources of NER has been discussed in chapter 5. This chapter analyses all the available legislations in India and highlights the shortcoming of such legislation. In the same chapter, the NER Biodiversity Rules has been discussed. All the Rules and the functions of Biodiversity Officials have been mentioned. The chapter provides how the Rules are inadequate to provide protection to the vast medicinal resources as various provisions of the rules are not complied with strictly. The main aim of the chapter is to provide an insight on how all the available legislation doesn't consist of a single specific provision for the protection of medicinal biodiversity and the rights of the indigenous peoples.

Hence, the hypothesis has been proved, as the available legislations are not adequate to provide protection to medicinal biodiversity and the rights of the indigenous peoples or communities in NER. And, a *Sui generis* legislation is required to provide the protection to the same.

## **SUGGESTIONS**

There are few suggestions that can be adopted and which can help in providing protection to medicinal resources as well as protect the rights of indigenous peoples over the traditional knowledge related to such biological resources.

### **1. Recognition of Rights of Indigenous Peoples and their Traditional Knowledge**

Indigenous peoples are the ones who have developed the use of various medicinal resources and their part on conservation of the same cannot be denied. It is important that the rights of indigenous peoples are recognised under a proper legislation either at international or at national level. With the inappropriate exercise of IPR the biological resources and associated TK are being misappropriated which has led to infringement of the rights of indigenous peoples. Hence, their right to economic generation has also been hampered as many times patents are granted over such use. It is important that their rights are recognised and protected. The new legislation must acknowledge the collective rights of indigenous people over their traditional knowledge, which is the core foundation of the local sustainability of the indigenous peoples. Similarly, more attention must be given to preserving and protecting the traditional medicinal knowledge and the use of biological resources. It is very important to note that they have used their intellect to develop their traditional knowledge and also have used it since time immemorial for numerous purposes. Such knowledge plays an important role in the conservation and sustainable use of biodiversity. Traditional Knowledge is an important part of indigenous peoples and it is

very important to respect the moral and material interest of those who have created and maintained TK, as human rights.

Traditional knowledge of the Indigenous peoples has distinctive intellectual, scientific, socioeconomic, ecological, technological, commercial, educational, spiritual and cultural values and characteristics. There is various evidence that proves that such knowledge has helped in conservation of environment, sustainable use of biological resources and helped in sustaining agriculture and food security. Along with all this contribution, it has also played an important role in technological and scientific progress. Such knowledge is rare and must be protected and promoted. Traditional knowledge is being misappropriated and misused, it is very important that such knowledge and the knowledge holders' rights must be protected. With no specific protection to the indigenous peoples and their knowledge the issues of bio-piracy have become rampant. The concept of bio-piracy is not new but the indigenous peoples in many places still don't understand its outcomes. The indigenous peoples in good faith share their knowledge which the researchers take advantage of. Hence, it is important that biopiracy is identified as a grave crime and punishment must be laid down to the people who commit it. The issues of biopiracy and illegal trade must be taken seriously and effective measures must be introduced to solve the same.

## **2. Availing consent of indigenous peoples in matter related to traditional knowledge associated with medicinal resources**

Indigenous peoples have lived in close contact with nature and hence, have vast knowledge of the resources found in the forests. Their rights are often overlooked and rejected as there is insufficient evidence to provide proof of their knowledge. Even the Indian Forest Act fails to recognise and respect fundamental constitutional rights and responsibilities of indigenous peoples to use, manage, govern and conserve forests. The forest laws do not

actually provide protection to their rights and most of the time they are forcefully removed from their lands. Failure to acknowledge their rights has led them to become victims of government development projects even when the Constitution of India provides protection to their rights over their lands. And hence, their rights over the land that they reside must be protected and they must also be acknowledged as a partner in access and benefit sharing provisions that has been laid down under the Biological Diversity Act, 2002. Their consent must be availed for use of biological resources that is related to their traditional knowledge and they must also be made known about the importance of the resources and how much they can actually claim rights over such resources. It is the national laws that can provide protection to the rights of indigenous peoples and their traditional knowledge. Indigenous Peoples are regarded as protectors of huge biological resources and due to their knowledge various biological resources have been conserved. Their efforts and knowledge must be recognised and protected as loss of their knowledge can lead to loss of various biological resources.

The Constitution of India should provide for relevant legally binding sections in order to provide recognition and protection to the rights of indigenous peoples. In Australia, a referendum was held and passed by a vast majority of the Australian people that amended sections 51(xxvi) and 127 of the Constitution, which included indigenous peoples to be counted as part of the population in regards to determining the number of seats a State would have in Parliament, and to create laws specific to indigenous peoples. The main aim was to equalize and recognise the indigenous peoples living in Australia.<sup>701</sup> Similarly, India

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<sup>701</sup> R. Travitz, Recognition of Indigenous People in the Australian Constitution; Our Law, High Law, Basic Law, *available at*: [https://www.academia.edu/25775663/.Recognition\\_of\\_Indigenous\\_Peoples\\_in\\_the\\_Australian\\_Constitution\\_Our\\_Land\\_Higher\\_Law\\_Basic\\_Law?](https://www.academia.edu/25775663/.Recognition_of_Indigenous_Peoples_in_the_Australian_Constitution_Our_Land_Higher_Law_Basic_Law?) (last visited on September 27, 2021).

too can make specific laws for the indigenous peoples so their rights are recognised and protected.

### **3. Combating Illegal Wildlife trade through training and awareness**

The illegal wildlife trade is regarded as one of the most serious crimes that the world is facing. The north east region of India is home to many rare and endangered species, and hence, illegal wildlife trade is rampant in these regions. Smugglers use the Indo-Myanmar border for conducting their trade. There is a need to strengthen the intelligence on wildlife trafficking and awareness must be spread among security agencies who are engaged with border protection in the country. Most of the species either plants or animals that are traded have medicinal properties and are in high demand at the international markets. Most of the time the local people are also engaged by the smugglers in the trade, the local people for the greed of earning few amounts help in trading of the animals or medicinal plants. This is because the people are unaware of the value of the resources and their rights over such resources. Another reason is the failure on the part of the forest officials to identify the medicinal plants. As they're not given any special training they fail to recognise the plant species. Hence, when such plants are illegally removed from the place, lack of knowledge leads to failure of solving the case properly and effectively. Increase in such cases has led to indiscriminate destruction of valuable biological resources. There is a need to provide training to the forest officers so that they can recognise the medicinal plants and also take actions when they encounter people collecting such plants illegally.<sup>702</sup> If the forest officials are trained they can make the people aware about the consequence and the penalty for being

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<sup>702</sup> Enact a special act for protecting India's natural pharmacy, *available at*: <https://www.downtoearth.org.in/blog/wildlife-biodiversity/enact-a-special-act-for-protecting-india-s-natural-pharmacy-64768> (last visited on October 1, 2021).

a part of such illegal trade. The local people must be encouraged to provide information of such killings or illegal trade.

#### **4. Community-based framework to control biopiracy**

To reduce biopiracy on microorganisms and plants conservation-based bioprospecting can be promoted. By doing so valuable research can be increased and a decrease in biopiracy and misappropriation can be accomplished. With a control on biopiracy a mutual relationship between the researchers and the custodian of the resources can be achieved. If research takes place and a product is developed then the researcher would want resources available to them for development of products, so bioprospecting with proper consent, benefit sharing and conservation must be encouraged. For the same purpose the community or local peoples must be encouraged to frame their own conservation-based bioprospecting framework. If the community-based framework is established then they can deal with the researcher themselves and their rights can also be protected along with the conservation of the resources. They can negotiate with the amount of benefits and make certain conditions for conservation and preservation of the resources too. The provision of availing free consent, equitable sharing of benefits can help in reduction of cases of biopiracy and also help the communities earn some benefits.

#### **5. Strict Legislation to deal with biopiracy**

A stringent legislation needs to be framed so that it will look into matters related to biopiracy, and the existing laws must include provisions to check into issues related to illegal trade. The laws that are available were framed way earlier and the present issues aren't included in those laws. There is a need for changes or if not a sui-generis law for protection of traditional knowledge. The new legislation must provide a definition of



traditional knowledge, the different areas and in what manner it can be protected. The knowledge of the diverse communities needs to be acknowledged as it is a part of their livelihood and culture. Only if their rights are recognised, can they get the economic benefits which are their rights that are recognised by many Declarations and Conventions. The available legislations which are discussed in one of the previous chapters highlights the main objectives of the legislations and also provides how the existing laws are insufficient in providing protection to medicinal biodiversity. Similarly, the rights of the indigenous peoples are not recognised which has led to infringement of their rights. There is no difference even after so many years of independence, history provides evidence on how the developed countries took away the rich resources of developing countries.

## **6. Amendments in the available Intellectual Property Regimes**

The current Intellectual Property Regime is not designed to accommodate TK and many experts are of the opinion that Conventional patent laws are inadequate to protect TK and biodiversity. The Traditional Medicinal Knowledge cannot be patented or the knowledge holders cannot claim for patent because of novelty issues and inventive steps. There is no way that the rights of the knowledge holders can be protected under the current IP Regime. Therefore, an Internationally enforceable legal regime must be set up to ensure that effective measures are adopted to protect the rights of indigenous peoples and their traditional knowledge associated with biological resources. It is essential that an international legal framework is set up that can provide provisions for traditional knowledge, the concept, the areas, and the owner of such knowledge. Only if the rights of such holders are recognised, the biological resources associated with traditional knowledge can be protected and preserved. As there is no specific definition of traditional knowledge and the rights of the indigenous peoples is not recognised by all the countries so it is

essential that a specific framework is set up for the purpose. Such a legal framework can also provide punishments for unscrupulous biopiracy practices especially by the MNCs. India has been actively demanding the WTO to make certain changes in the TRIPs agreement. The demand of India along with 9 other countries is to provide provision on stating the origin of the resources while claiming a patent. This way the origin of the resources can be tracked and it can also be seen if it is a part of traditional knowledge or any region or not. Only with adequate international laws, standards, norms and monitoring mechanisms, the theft of indigenous and local knowledge will be controlled.

The patentee if he/ she fails to disclose the source or where he/she has sought to deliberately mislead about the sources the sanction must be awarded to them. If such a system is established then the patent examining offices who identify the geographical source of genetic resource and traditional knowledge pass on that information to either the concerned country or to WIPO who may act as a depository for patent-related information on alleged 'biopiracy'. Through these measures it will be possible to monitor more closely the use and misuse of genetic resources. by adopting these measures, a check can be done on the misuse of genetic resources of a particular country. It can also keep a check on grant of wrongful patents and the patentee will also be careful if sanction is applied to wrongful claims.<sup>703</sup>

## **7. Implementation of Access and Benefit Sharing provision under CBD**

Access and Benefit Sharing Process laid down under CBD must be followed properly, so that the resources are protected and the economic rights of the traditional knowledge holder is also guaranteed. The process for access and benefit sharing is provided under the Biodiversity Rules but most of the time the important part is missed out by the expert

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<sup>703</sup> Sabuj Kumar Chaudhuri, "Microbial Biopiracy in India: How to Fight Back?", 8 *Journal of Intellectual Property Rights* 389-399, (2003).

committee that is to negotiate with the community or people who have been using such resources. Globalization and ideas of Intellectual Property Rights has influenced most of the countries in the world and hence, it is necessary that appropriate national and international guidelines must be implemented and the access and benefit sharing provisions must be laid down. By doing this misappropriation of traditional knowledge can be prevented and the biological resources can be conserved for future generations.

Once the access and benefit sharing provision is fulfilled with prior informed consent then the rights of indigenous peoples can be recognised. Apart from the access and benefit sharing provision the other benefits that can be availed is the right to health. Hence, if the biological resources are accessed with prior informed consent to develop new drugs with the help of traditional knowledge then the public can also get the benefits in the way of new drugs at a reasonable price.

#### **8. Sui generis Legislation for protection of Medicinal Biodiversity**

There are numerous legislations in India, but there exists no specific legislation for the protection of medicinal biodiversity available in India. Hence, a controlled and structured model of Legislative controls with respect to medicinal plants must be evolved, this way the medicinal plants can be protected. This model must include the information of all the medicinal resources and their use. Along with this the officials of the forest department can be given special training about medicinal plants, so that they can identify the plant species that are found in the area. In India there are no provisions for giving special training to the forest officials related to medicinal plants, which has led to destruction of valuable plant species as the officials are not able to deal with the illegal removal of such valuable plants. To stop indiscriminate destruction of such plants it is essential for effective and useful training of all the field staff and officers in identifying medicinal plants and also to deal

with any occurrence that involves medicinal plants. Most of the medicinal plants have attained the status of RET (Rare, Endangered and Threatened), thus the central and state government must strive to conserve the valuable medicinal plants either by enacting a sui generis Act or by imparting training to forest department officials. Such legislation can include the rights of the indigenous peoples over the use, conservation and traditional knowledge. It should also include penalties that can be awarded if anyone is caught misusing the medicinal resources without the permission. This way, the local people can also be included in providing information about the theft and misuse by any suspicious person or groups. The existing legislation doesn't provide protection to traditional knowledge, and its types including the knowledge based on the use of biological resources, furthermore the rights of the people who have or developed such knowledge is not acknowledged. The national framework available in India fails to provide protection to the medicinal resources present. There is no doubt that various legislations are available in India but there exists no single legislation that provides definition of indigenous peoples, tribal people, traditional knowledge etc.,. The failure of providing protection to the indigenous peoples and their traditional knowledge associated with the medicinal resources has led to an increase in cases of biopiracy, illegal trade. Hence, a *Sui generis* legislation must be framed so that the rights as well as the traditional knowledge associated with medicinal resources is protected. Only with a special law the traditional knowledge associated with medicinal plants in India will be protected. It is high time for India to get a sui-generis and comprehensive positive and defensive or negative IPR protection which considers the society-oriented knowledge and where 'prior art', either within public domain or non-public domain, is fully protected.

## **9. Documentation of Traditional Knowledge associated with biological resources**

Documentation of Traditional knowledge can be a great step that can help in protecting the rights of the traditional knowledge holders. Biopiracy or misappropriation takes place when the bio pirates use the traditional knowledge and related biological resources for developing new products and claim patents over the same. But if such knowledge or the use of such resources are documented then it can be considered as prior art which is an important criterion to reject the patent claims. Documentation takes a long time and with time, most of the knowledge has disappeared, even if we find old texts now we are unable to identify such resources. Documentation of species used and commercialization through civilization will not only help to improve their social economic status and also help in conservation activities among the community who use it. Such knowledge is important for sustainable development hence, needs to be tapped and preserved. If such knowledge is documented, then it can lead ways to develop medicines which can in turn lead to economic boost of the communities and also encourage them to save or preserve such species with medical properties.

Traditional Knowledge Database is one of the new ways through which the traditional knowledge related to various medicinal resources can be protected. Documentation as mentioned is very tricky and difficult but there are three ways through which it can be accomplished. Firstly, documentation by TK holders and such databases will be managed by the indigenous peoples or communities. Second, documentation with the help of external forces like the NGOs, Universities or Corporations. Lastly, maintaining the TK registers by government or organizations. For preservation of traditional knowledge, it is important that it is identified, documented in such a way that it promotes the cultural heritage of a community. TK has both economical and moral value and to leave it under IP protection

can lead to misappropriation and misuse of the same. Hence, to provide an over protection to TK it is important to look at all the relevant aspects of TK such as photographs, sound recordings, films and manuscripts that are documented and preserved in libraries and museums.<sup>704</sup>

### **10. Amendment of Patent Act in India**

The amendments made on the Patent Act, 2005 has in a way led to more confusion among the people. Though it suggests protection to the traditional knowledge of a place, there are no provisions on recognition of the rights of the traditional knowledge holders, and furthermore if traditional knowledge is used for patents then no measures are provided through which the knowledge holders can challenge the same. The amendment is unambiguous about the rights of the traditional knowledge holders. It doesn't clearly mention what exactly is traditional knowledge and the types that can be protected. Without a clear definition it becomes more complex to provide protection to traditional knowledge of indigenous peoples. It is not possible to provide protection to the traditional knowledge of indigenous especially based on the use of bioresources under the patent act. Hence, there exists no possibility that a patent can provide protection to traditional or indigenous knowledge. It is important to note that there exists no specific law or provision that provides an overall protection to TK so either a sui generis legislation or inclusion of specific provision that provides overall protection to Traditional knowledge must be incorporated.

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<sup>704</sup> Torsen M and Anderson J, "Intellectual Property and Safeguarding of Traditional Cultures: Legal issues and Practical option for Museums", Libraries and Archives (WIPO, Switzerland, Geneva) 2010, p.18.

## **11. Learning through Examples**

India can take examples of other countries like that of Africa, China, Sri Lanka etc. In Africa they have adopted an African Model Legislation for Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources, 2000. In Peru sui generis regime has been established for protection of Traditional knowledge. They have framed their legislation in such a manner which aims for sustainable use and conservation of resources and to see that the benefits are equally shared. The main purpose of their legislation is to provide protection to traditional knowledge. The indigenous peoples or communities have the right to refuse the parties access to TK as it threatens the integrity of the cultural heritage. The indigenous peoples are given equal rights to participate in prior approval of application. By doing so the rights of the indigenous peoples over their knowledge is acknowledged and by seeking their approval their economic and cultural rights are also protected. Apart from these there are other countries too who are striving hard to protect the rights of the indigenous peoples and their knowledge. Hence, India must also learn from them and frame legislations to acknowledge the rights of the indigenous peoples over the biological resources.

## **12. Traditional Knowledge Docketing System**

Traditional knowledge protection can also be done through a secure traditional knowledge docketing system (hereafter referred to as TKDS). TKDS ensures to indicate the location of traditional knowledge, the community who use and possess such knowledge and a short description of the nature of traditional knowledge. The communities should be empowered to take appropriate intellectual property rights on their innovations related to TK and form trusts and to negotiate with potential customers. This way the rights of indigenous peoples can be acknowledged and if some economic benefits are generated then they will also be

able to get such benefits directly. Measures need to be adopted to protect the traditional knowledge of indigenous peoples. A universal definition needs to be framed and the characteristics and the areas of traditional knowledge must be laid down. After such definition and areas, the protection must be guaranteed, and made known to all. The traditional knowledge holders can resort to various technologies, like Information and Communication Technology tools to preserve indigenous knowledge. With technological advancement the traditional medicinal knowledge can be captured, stored, retrieved and disseminated for the future generations use. An effort must be made by governments and various organizations to look at the available legislation and provide for effective measures to protect the traditional medicinal knowledge. Likewise, workshops or programmes must be organized to educate traditional medicinal knowledge owners on how to use various technologies to preserve their knowledge.<sup>705</sup>

### **13. Maintaining of People's Biodiversity Registers by Biodiversity Management Committees**

The North Eastern Region of India is known for its rich biodiversity and is one of the Biodiversity hotspots in the world. The rich resources found in the region are unique and are endangered. Such resources are a part of life of indigenous peoples living in the region. Thus, it is very necessary for the state governments to take initiatives to protect the rich resources as well as the rights of the communities. One way that they can do so is by properly maintaining the Peoples Biodiversity Registers. Biodiversity Management Committees can take the help of other organizations and local people to maintain the PBRs.

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<sup>705</sup> Preservation of traditional medicinal knowledge: Initiatives and techniques in rural communities in KwaZulu-Natal, *available at*: <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=9004&context=libphilprac> (last visited on October 12, 2021).



Only if the local bodies and authorities provide their participation and collective efforts can biodiversity be conserved. There are many states who have failed to maintain the PBRs, this can cause loss of knowledge on the use of specific resources. Apart from protection, the BMCs and village councils can also help in stopping the misuse or misappropriation of biodiversity knowledge in the areas. They can do so by making the researchers compulsory to avail prior permission before they come for research. This way they can implement the provision of prior approval and also help in checking the biopiracy cases. Hence, the proper maintenance of PBRs can help in preservation of the rich resources and help in the documentation of the traditional knowledge of the area.

#### **14. Awareness Programmes**

Awareness among the people is the most important area that needs to be looked at. No law can be effective, unless society as a whole and rural communities in particular, realize the importance of biodiversity, its sustainable use, and stand up for its conservation. In the NER states most of land ownership is with the communities, clans and individuals. Most of them follow the traditional or customary laws. Such customary laws are often disregarded and the national laws are followed. It is essential that the people are made aware about the rights they have and how they can protect the same. The Biodiversity Act, 2002 provides under its Rule of 2004 that a Biodiversity Management Committee must be established. One of the main functions of BMC is to maintain the Peoples Biodiversity Register. But there is no implementation of such functions in many places. The general public are unaware about the committee and their functions. Hence, the State Biological Board along with the Biological Management Committee must strive to make the general public aware about the importance of their biological resources and also encourage them to promote and protect the same. Similarly, awareness about Intellectual Property Rights

must also be given to people. India must have IPR-educated scientists and mass awareness, for this the Central, State government together with NGOs can accomplish this. Only, if the people know about the issue of biopiracy, patents and the importance of biodiversity, the issues can be reduced.

The North Eastern Region of India is also known for tourism. Tourism is one of the sources of income in these regions of India. But, most of the time researchers visit the place as a tourist and do their research and take away resources from the place. It is very difficult to check on every tourist and it's not possible to check if they are coming to visit or to do their research. Tourism must flourish but the resources must be protected and biopiracy must be checked. One of the ways to look into this matter is to inform the tourist check post to inform them about the issues of biopiracy and that it would lead them to danger if they were caught doing so, even the tourist guide must be explained about the issue and this way they can put a control on theft of resources for the region. The forest officials along with the state biodiversity authorities can check on the people who they find suspicious and for this awareness among the local people especially officials at check post, owners of home stays and tour guides must be made known about the issue of biopiracy.

### **15. Plant Conservation Boards**

There are various centers established in different parts of India for conservation and preservation of medicinal species that are in danger of extinction. This effort can lead to conservation of medicinal resources and also protect it from extinction. There are various examples like in Assam, medicinal boards have been established to provide protection to the available medicinal plants, such initiatives can help in conservation of valuable medicinal plants available in the region. This initiative can also help the general public realize the importance of the resources and also get the understanding of various plants that

have medicinal resources. Such centers not only can help in conservation of such resources but also help in spreading awareness among the people. They can also start up training for people so they can cultivate such medicinal plants. By cultivating the medicinal plants indigenous population can also gain some economic benefits if done on scientific lines to enable storage. The government must offer them a minimum support price to ensure the people are engaged in such activities. This in turn will not only provide conservation but also provide a means through which people can earn certain income.

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