

**Biodiversity Laws: An Analytical Study
With Special Reference to Access
and Benefit Sharing**

THESIS

SUBMITTED TO
BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY
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2021



*DEDICATED TO MY
MOTHER AND LATE
FATHER*



DECLARATION

I, **AJIT KUMAR GOND**, hereby declare that this research work for the award of Ph.D. degree in Law entitled “**Biodiversity Laws: An Analytical Study With Special Reference to Access and Benefit Sharing**” has been done by me on the basis of original research material and information taken from other research works has been duly acknowledged.

I further declare that this is an original work and has not been previously submitted in part or full for any other degree or diploma in this or any other university. This is also to declared that the thesis is essentially free from all kinds of plagiarism.

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This thesis submitted to Babasaheb Bhimrao Ambedkar University, Lucknow satisfies all the requirements as stipulated in the Doctor of Philosophy (Ph.D.) regulations, 1999 as amended in 2013 and it is fit for submission and evaluation for the award of degree of Doctor of Philosophy of the University.

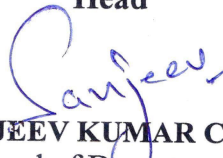
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ABBREVIATIONS

ABS	:	Access and Benefit Sharing
AIR	:	All India Reporters
ASEAN	:	Association of South East Asian Nations
BDA	:	Biological Diversity Act
BHS	:	Biodiversity Heritage Site
BMC	:	Biodiversity Management Committee
BSI	:	Botanical Survey of India
Bt	:	<i>Bacillus thuringiensis</i>
CBD	:	Convention on Biological Diversity
CIEL	:	Centre for International Environmental Law
CITES	:	Convention on International Trade in Wild Species of Endangered Flora and Fauna
CMS	:	Bonn Convention on Conservation of Migratory Species
COP	:	Conference of Parties
CSD	:	Commission on Sustainable Development
CTE	:	Committee on Trade and Environment
EC	:	Expert Committee
EIA	:	Environment Impact Assessment
EPW	:	Economic and Political Weekly
GEF	:	Global Environment Facility
GMOs	:	Genetically Modified Organisms
HPC	:	High Powered Committee
ILM	:	International Legal Material
IP	:	Intellectual Property
IPR	:	Intellectual Property Rights

IUCN	:	International Union for Conservation of Nature
JFM	:	Joint Forest Management
JILI	:	Journal of Indian Law Institute
JWIP	:	Journal of World Intellectual Property
LDCs	:	Least Developed Countries
LEAD	:	Law Environment and Development Journal
LMOs	:	Living Modified Organisms
MoEF	:	Ministry of Environment and Forests
NAP	:	National Afforestation Programme
NBA	:	National Biodiversity Authority
NBAP	:	National Biodiversity Action Plan
NBSAP	:	National Biodiversity Strategy and Action Plan
NEP	:	National Environment Policy
NGO	:	Non Governmental Organisation
NGT	:	National Green Tribunal
NISCAIR	:	National Institute of Science Communication and Information Resources
PA	:	Protected Areas
PC	:	Planning Commission
PBR	:	Peoples Biodiversity Register
SAARC	:	South Asian Association for Regional Cooperation
SACEP	:	South Asia Co-operative Environment Programme
SBB	:	State Biodiversity Board
TKDL	:	Traditional Knowledge Digital Library
TRIPS	:	Trade Related Aspects of Intellectual Property Rights
UNCCD	:	United Nations Convention to Combat Desertification
UNCED	:	United Nations Conference on Environment and

Development

UNDP	:	United Nations Development Programme
UNEP	:	United Nations Environment Programme
Viz.	:	Namely
Vol.	:	Volume
WCU	:	World Conservation Union
WII	:	Wildlife Institute of India
WIPJ	:	World Intellectual Property Journal
WWF	:	World Wildlife Fund
ZSI	:	Zoological Survey of India



CHAPTER- I
INTRODUCTION



INTRODUCTION

1.1 INTRODUCTION

Biodiversity is commonly caught on as the number of species on soil, in some cases more precisely named “global species richness.” To get it present day biodiversity, it would be curiously to decide whether there are any “rules” or, at slightest, wide standards¹.

Biodiversity as a word and as a concept has literally exploded into the popular psyche and into academic literature² in about twenty years. Yet the meaning of the term and the significance of related issues are often misunderstood whilst its general reference to the diversity of life and species is clear. Since its first usage biodiversity has become inextricably intertwined with nature conservation and to a degree with ideas of sustainability. However, why and what we choose to conserve, and indeed how successful our attempts are, remain enigmatic. Ideas of conservation and biodiversity become mixed with implied issues of ‘wilderness’ and of ‘nature’ and ‘naturalness’. But it is increasingly recognized that much of the biodiversity which we may hope to conserve is in fact the result of a long interaction between people and nature. It is a ‘cultural ecology’, the product of the environment, history and tradition³.

Biological diversity deals with the degree of nature’s variety in the biosphere. This variety can be observed at three levels; the genetic variability within a species, the variety of species within a community, and the organisation of species in an area into distinctive plant and animal communities constitutes ecosystem⁴ diversity⁵.

¹ Available at- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5091874/> last visited on December 12, 2020

² Ashok Kumar, *Environmental Change and Biodiversity* 143(Swastik Publications, Delhi, First Published, 2011).

³ Available at-<http://www.eolss.net/Sample-chapters/C09/E6-156-09>, last visited on December 12, 2020

⁴ T.S. Krishnan, *Biodiversity and Environment* 74(Swastik Publishers & Distributors, Delhi, First Published, 2008).

⁵ Available at-<https://www.ugc.ac.in/oldpdf/modelcurriculum/Chapter4>, last visited on December 12, 2020

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The classic views of Darwin, the Modern synthesis, the paleobiological revolution and today. Charles Darwin's view of the 'origin of biodiversity' was a major theme of the Origin and much of his later writing. He is best known for having presented the crucial model of evolution by natural selection that is core to modern evolutionary understanding. It is sometimes forgotten that the second theme of his book was 'descent with modification', his important insight that evolution in deep time had occurred through.

Although the perception of the variety of life forms is as old as the very self-consciousness of the human species the concept of biodiversity is quite recent. It was conceived by Walter G. Rosen, from the National Research Council/National Academy of Sciences in 1985, while planning to conduct a forum on biological diversity. The event was held in the U.S. capital, Washington, from the 21st to 24th of September, 1986, with the name of the National Forum on Biodiversity, under the auspices of the NAS and the Smithsonian Institute⁶. The forum took place at a time when interest in the knowledge of the diversity of life and concerns about its conservation, both among scientists and among a considerable portion of society, was taking momentum. The Society for Conservation Biology (SCB) was founded in 1985, and in 1987 the first issue of the journal Conservation Biology was published, which soon became the main vehicle for scientific publication and debate on issues related to biodiversity⁷.

During the 1980s, the issue of the diversity of life was discussed as a research subject for scientists and as a matter of concern for activists and scientists. Actions to save species from extinction, especially the most charismatic species of fauna and flora - such as mammals, birds, magnificent trees, or plants with beautiful flowers - were not new. It was part of the tradition related to the creation of national parks and reserves, which, besides the preservation of the wild fauna and flora, was aimed at the protection of landscapes and geological features of great beauty. Therefore, the notion of "natural heritage" was quite appropriate and sufficiently ample. Terms like natural diversity or diversity of life were common when it came to alluding to the living components of nature, i.e., the diversity of organisms or species⁸.

⁶ Available at- http://www.scielo.br/pdf/his/v32n2/en_a03v32n2, last visited on December 12, 2020

⁷ *Ibid.*

⁸ *Ibid.*

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Biodiversity is extremely complex, dynamic and varied like no other feature of the Earth. Its endless plants, creatures and organisms physically and chemically join together the air, geo-sphere, and hydrosphere into one natural framework which makes it possible for millions of species, including people, to exist. Many of these deal with various aspects and parts of bio diversity, starting with the Convention relating to the Preservation of Fauna and Flora in Their Natural State, 1933.⁹ But the first concerted effort for the conservation of biodiversity at international level figured in the discussions at the U.N Conference on the Human Environment held at the Stockholm in 1972. Principle 4 of the Declaration is guiding towards protection of biodiversity as it provides for 'safeguard and wisely manage the heritage of wildlife and its habitats'.¹⁰ Biodiversity can broadly be divided at three levels i.e. genetic diversity, species diversity and ecosystem habitat diversity.¹¹

Access and benefit-sharing alludes to the way in which hereditary assets may be gotten to, and how clients and suppliers reach understanding on the reasonable and impartial sharing of the benefits that might result from their utilization.

The Convention on Biological Diversity (CBD) sets out provisions which are governed to access and benefit-sharing¹².

Under these rules, the governments of countries have two key responsibilities:

1. To put in place systems that facilitates access to genetic resources for environmentally sound purposes
2. To ensure that the benefits resulting from their use are shared fairly and equitably between users and providers Users of genetic resources include research institutes or companies seeking access for basic scientific research or product development. To gain access, users must first get permission (known as prior informed consent or PIC) from the provider country. In addition, the provider and the user must negotiate an agreement (known as mutually agreed terms or MAT) to share the resulting benefits equitably.

Providers of genetic resources: States have sovereign rights over natural resources under their jurisdiction. They are obligated to put in place conditions that facilitate access to these resources for environmentally sound uses. Providers agree

⁴Ashish Kothari, "Politics of Biodiversity Convention", 27 *EPW* 749 (1992), available at: <http://www.jstor.org> ., last visited on november 20, 2020

¹⁰ Patricia Birnie, *et. al.*, *International Law and the Environment* 48-49 (Oxford University Press, New York, 3rd edn., 2009).

¹¹ Available at- <http://cmsdata.iucn.org>., last visited on December 12, 2020

¹² Article- 15 of The Convention on Biological Diversity, 1992

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terms, which include PIC and MAT, for granting access and sharing benefits equitably. Laws within the provider country may entitle others, such as ILCs, to also negotiate terms of access and benefit-sharing. The participation of ILCs is necessary in instances where traditional knowledge associated with genetic resources is being accessed.

Users of genetic resources: From the basic research to the development of new products, they seek access to genetic resources for a wide range of purposes. Users are responsible for sharing the benefits derived from genetic resources with the providers. They are a diverse group, including botanical gardens, industry researchers such as pharmaceutical, cosmetic industries and agriculture, collectors and research institutes, etc.

National Focal Points: To facilitate access, users need a clear and transparent process that details who to contact and what the requirements and processes are in provider countries in order to gain access. National Focal Points are responsible for providing this information.

Competent National Authorities (CNAs): CNAs are bodies established by governments and are responsible for granting access to users of their genetic resources, and representing providers on a local or national level. National implementation measures establish how CNAs work in a given country.

The access and benefit sharing procedures specifically stipulated under the *Biological Diversity Act, 2002* are in line with the provisions of international laws and policies, particularly Convention on Biological Diversity and the Bonn Guidelines. The entire procedures as described in the Act can contribute substantially to facilitate an international regime of Access and Benefit Sharing on genetic resources and traditional knowledge¹³. Human societies across the globe derive nutritional, economic, aesthetic and cultural value from biological diversity.¹⁴ Much of that biological diversity is currently threatened by human activities, particularly through alteration of landscapes and ecosystems associated with agriculture, urban development and management of waterways.¹⁵

¹³ Zubair Ahmed Khan, *Protection of Biodiversity in India and Bangladesh: A Legal Perspective*, ILI Law Review, 225, Summer Issue 2016.

¹⁴ Ehrlich, P. R. and A. H. Ehrlich, "The value of biodiversity", 21 ELSEVIER (3): 219-226 (1992)

¹⁵ Corvalan, C., S. Hales, and A. McMichael, "Ecosystems and Human Well-being: Health Synthesis", A Report of the Millennium Ecosystem Assessment. World Health Organization, Geneva, 2005

INTRODUCTION

The diversity among various life forms within the Biosphere refers to biodiversity. Since the life form ranges from microbes to mega life forms, the biodiversity thus has larger connotation and hence varies from simple genetic level to higher complexities of various species associations and their interrelationships. Biodiversity is the foundation of life on Earth.¹⁶ The conservation and use of biological diversity has been of the most debated areas of environmental law for more than a decade. While biodiversity constitutes only one part of environment regulation, it has acquired a special importance because it provides an umbrella framework all discussions relating to the use and protection of all living organisms.¹⁷

It is crucial for the functioning of ecosystems which provide us with products and services without which we cannot live. Oxygen, food, fresh water, fertile soil, medicines, shelter, protection from storms and floods, stable climate and recreation - all have their source in nature and healthy ecosystems. But biodiversity gives us much more than this. We depend on it for our security and health; it strongly affects our social relations and gives us freedom and choice.¹⁸

Biodiversity management at these three aforesaid levels has different implications. The biodiversity management at habitat level is holistic and more cost effective. At the same time, no other feature of the Earth has been so dramatically influenced by man's activities. By changing biodiversity, we strongly affect human well-being and the well-being of every other living creature.

The very existence of biodiversity is everywhere in the biosphere. It occurs both on land and in water, from high altitudes to deep ocean trenches and it includes all organisms, from microscopic bacteria to more complex plants. Although many tools and data sources have been developed, biodiversity remains difficult to measure precisely. These are some measures of biodiversity. Species richness represents a single but important metric that is precious as the common currency of the diversity of life but to fully capture biodiversity, it must be incorporated with other metrics. IUCN

¹⁶ William J. Snape, "Joining the Convention on Biological Diversity: A Legal and Scientific Overview of Why the United States must Wake Up"6 Volume 10 *Sustainable Pathways Towards Biodiversity Preservation* (2010).

¹⁷ Phillippe Cullet, *Intellectual Property Protection and Sustainable Development*, 90 (LexisNexis Butterworths, New Delhi, 2005)

¹⁸ Available at-<http://ndl.iitkgp.ac.in.>, last visited on December 12, 2020

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has access to different kinds of information on species. The Red List of Threatened Species provides global assessments of the conservation status of species.¹⁹

Needless to say, biodiversity is invaluable. Overall significance of this natural asset can't be and should not be reduced to commoditization. However, in practice decisions at various levels have been seen to have ignored this aspect, and have given more emphasis to commoditized or otherwise valued things than this invaluable asset though that doesn't mean that a comparative valuation of the same is totally impossible. Production potential of timber and NTFP can be assessed; carbon credits of the forest ecosystem can also be assessed. Even other ecological services can be assessed. If the full economic value of these services was taken into account in decision-making, the degradation of ecosystem services could be significantly slowed down or even reversed. In the name of developmental activities, industrialization, mining, and other such projects have been allowed to cause massive loss to ecosystem and biodiversity, thereby showing how poorly the economic value of biodiversity and ecosystems is recognized and inadequately reflected in public and private decisions. In order to build support for and guide efforts to reduce ecosystem degradation and halt biodiversity loss, more information and wider understanding is needed of the local and global benefits of ecosystem services, and of the full costs of restoration and conservation.

It is very well recognized by various civilizations during the early centuries and later by scientific means, that the need of biodiversity cannot be ignored in development paradigms. This realization has been attached to various socio-cultural issues of these human civilizations. It is estimated that more than 70,000 plant species are used in traditional and modern medicine. Our food and energy security strongly depends on biodiversity and so does our vulnerability to natural hazards such as fires and flooding. Biodiversity loss has negative effects on our health, material wealth and it largely limits our freedom of choice. Only 2.5% land area of the earth's, in India accounts for 8% of the recorded species of the world, which includes millions of races, subspecies, local variants of species and the ecological processes and cycles that link organisms into population, communities, and all different ecosystems.

¹⁹ Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 253-260 (NATURE, May 15, 1997)

INTRODUCTION

Demographically, it is the second largest populated country in the world and a majority of its population directly depends on biological resources for livelihood.²⁰

As all cultures gain inspiration from or attach spiritual and religious values to ecosystems or their components that is landscapes, trees, hills, rivers or particular species biodiversity loss also strongly influences our social relations. The benefits that we gain from biodiversity go far beyond the mere provision of raw materials. Biodiversity is essential to global food security and nutrition and also serves as a safety net to poor households during times of crisis. Increased diversity of genes within species e.g. as represented by livestock breeds or strains of plants, reduces risk from diseases and increases potential to adapt to changing climate. Biodiversity is crucial to human wellbeing, sustainable development and poverty reduction. In the long term, the value of services lost may greatly exceed the short-term economic benefits that are gained from transforming ecosystems. When we modify an ecosystem to improve a service it provides, this generally also results in changes to other ecosystem services.

Life on earth as we know it is under siege. Significant and probably irreversible changes to the natural world are now occurring. It is undisputed fact that we are losing wild species in nature to extinction faster than in any geologic period since the dinosaur die-off roughly sixty five million years ago. It is also undisputed that ecosystem services from land, water, and air are degraded throughout the world and threatening food supplies, economic development, scientific advancements, and global security. The rapid advent of global warming and associated climate change makes the job of saving native plants, animals, and habitats even more difficult. Human beings need biological diversity to survive and prosper, but our natural support system is fraying. Thus, the reason need to formulate an appropriate system for Prior Informed Consent and Fair and Equitable Benefit sharing in respect of biological material and traditional knowledge of use of such biological material to enable the country and local communities respectively to derive economic benefits for providing access.

The United Nations Environmental Programme was launched by the UN General Assembly in 1972 as a follow-up to the first United Nations Conference on

²⁰ K. Venkataraman, "India's Biodiversity Act, 2002 and its role in conservation" 50(1) *Tropical Ecology* 24-25 (2009), available at: <http://www.tropecol.com.>, last visited on December 09, 2020

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Human Environment (UNCHE) to meet the urgent need for a permanent institutional arrangement within the United Nations system for the protection and improvement of the environment system.²¹

In response to growing worldwide concern with environmental issues the General Assembly organized the United Nations Conference on the Human Environment which was held in Stockholm in 1972 and led to the creation of the United Nations Environment Programme in the same year. The initial stages of the conference saw the emergence of two conflicting approaches. The first approach insisted that the primary concern of the conference should be regarding the human impact on the environment with emphasis on the control of pollution and conservation of natural resources. And the second approach laid emphasis on social and economic development as the real issue.²²

The concern for the Conservation of Biodiversity at global level figured for the first time in the discussions at U.N Conference on the Human Environment held at the Stockholm in 1972. Though the United Nations Environmental programme identified conservation as a priority area in 1973, it was only towards late 1980's that systematic and concerted efforts to look at Biodiversity Conservation profile at International level started with constitution on an ad hoc working group of experts on biological diversity by UNEP in 1987. By its Resolution on Institutional and Financial Arrangements for International Environmental Cooperation adopted, the general assembly broadly gave effect to the organizational recommendations made at the Conference.²³

Enter the Convention on Biological Diversity, 1992 sometimes called the "CBD" for short. This Convention was adopted by balancing the 'common heritage' and 'national sovereignty' principles. The broad agenda envisioned under the Convention are sustainable use, fair and equitable sharing of benefits of genetic resources which in turn obligate the member states to swing into action for devising ABS model.²⁴The United States has signed but not yet ratified this international

²¹ Bharat H. Desai, *Mapping the Future of International Environmental Governance*, 45 Ulfstein / Yearbook of International Environmental Law, vol. 13(2003)

²² P.S. Jaswal and Nishtha Jaswal, *Environmental Law*, 94 (Allahabad Law Agency, Haryana, 3rd edn., 2009)

²³ Aruna Venkat, *Environmental Law and Policy*, 18-19 (PHI Learning Pvt. Ltd., New Delhi, 1st edn.,2011)

²⁴ Md. Zafar Mahfooz Nomani, "Biological Diversity, IPR and Sustainable Development: A Critical Appraisal of Access and Benefit Models of U.S., Australia and India", 40, International journal of environmental consumerism (IJEC)

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treaty, which has emerged as the best overarching tool to protect species, habitats, and ecological processes important to human well-being. Now more than ever, the engagement and leadership of the United States is necessary to protect biological diversity and the natural services enjoyed by Americans and others throughout the world. No country possesses an inventory, description, and understanding of its wildlife, habitat networks, and ecological processes greater than the United States. In addition, the U.S. possesses transparent laws, dispenses significant foreign aid, and embodies a tradition of public engagement that leads to greater biodiversity-related protection and enforcement than most countries. The U.S. has also been a good international partner in other environmental agreements and treaties such as the Convention on International Trade in Endangered Species, the Ramsar Convention on Wetlands, and the Montreal Protocol on Substances that Deplete the Ozone Layer.

The interests of the United States stand to benefit greatly from such multilateral cooperation and continued ability to access biological diversity from other countries across the globe. Significantly, no new federal or state laws are necessary for the United States to ratify and join the CBD, and absolutely no loss of legal or natural resource sovereignty is even possible under the express terms of the Convention. The United States will, in fact, benefit under the treaty by better organizing its own biodiversity-related programs, and by similarly helping non U.S. geographic areas, many in strategically important locations. The United States will also benefit by possessing a formal seat at the table for important upcoming negotiations and discussions under the Convention, particularly with regard to the proposed protocol on Access and Benefit-sharing and by being connected to other Parties through various biodiversity related projects such as scientific research, climate offsets, ocean protection, alien invasive species work, and enforcement coordination. Many worldwide biodiversity cooperative programs flow from the Convention, including partnerships with other U.N. agreements and the World Trade Organization.

At the National level, during the period of colonial era, the revenue orientation of colonial policy worked mainly towards the devastation of forests in India. The Forests were regard as ‘an obstacle for the agriculture and therefore a bar to the prosperity of the British Empire’. The Imperial Forest Department was established in

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1864, with the help of Germany, the expert from the country was at that time the leading European in Forest Management.²⁵

The first endeavour at claiming state monopoly was through the *Indian Forest Act* of 1865 which laid the establishment of the British policy in the direction of forests in India. The British Policy which was a straight result of reduce forests in other areas under the control of British Empire, was confining accesses of people to the forest resources.

The Act of 1865 was substitute by more comprehensive legislation i.e. Act of 1878 in which by one stroke of the executive pen attempted to eradicate centuries of customary use by Indian population. It classified the three classes of forests i.e., reserved forest, protected forest and village forests; out of this three the first two were under control of the state.²⁶ The concept of earmarking certain portions of the forests for the protection of wildlife habitats was for the first time by the Indian Forests Act, 1927, although the motive behind the legislation was to ensure exclusive use of forest wealth by the government.

Right to an adequate environment is an inherent human rights and this has been recognised in the Indian Constitution²⁷. Our Constitution contains detailed provisions for the environmental protection. The directive principles are not only show pieces for the window dressing. They are essentials in the governance of country and being part of the Supreme law of the territory, have to be implemented²⁸.

The Directive Principles of the State Policy²⁹ and the Fundamental Duties³⁰ explicitly oblige the duties on the state as well as citizens respectively to protect and preserve the environment. Further, it also articulates the national commitment towards the protection and improvement of environment.³¹ Such constitutional protection of environment has given more thrust to protect the biodiversity on planet.

Even though the expression 'environment' had not been specifically mentioned in the Constitution, however there are many provision and items in the

²⁵Ramchadra Guha, "*Forestry in British and Post-British India: A Historical Analysis*" 18 EPW 1884 (1983) available at:<http://www.jstor.org>., last visited on Nov 21, 2020

²⁶NandanNelivigi, "Biodiversity, Wildlife and Protected Area Management in India: A People Centred Approach" 37(2) JILI, 147 (1995)

²⁷ Tim Hayward, *Constitutional Environmental Rights* 25(Oxford University Press, New York, 2005)

²⁸ Durga Das Basu, V.R. Manohar, *Introduction to the Constitution of India* 98, (Lexis Nexis Butterworths Wadhwa, Nagpur, 2008)

²⁹ Part IV of the Constitution of India Act, 1950

³⁰ *Ibid.*

³¹ Shyam Diwan& Armin Rosencranz, *Environmental Law and Policy in India: Cases, Materials and Statutes*, 41 (Oxford University Press, New Delhi, 2ndedn., 2012)

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legislative lists that empowered the Centre and State to make necessary law in the field of environment. After four years of Stockholm Conference³² the environmental protection and improvement was clearly incorporated into the Constitution by the Constitution (Forty-Second Amendment) Act of 1976. The policy prescriptions that guide the government were added to the Directive Principles of State Policy.³³ It declares that, “*The State shall endeavour to protect and improve the environment and to safeguard the forests protect and to improve the natural prosperity of the country i.e. wildlife and forests. Likewise, a new chapter titled ‘Fundamental Duties’ compel similar responsibility on each and every citizen “to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures”.*³⁴ Thus, this provides the directive to the State for the protection and improvement of environment. Moreover, the citizens have a constitutional duty and responsibility to protect and improve their natural environment.

The Article 48-A is of very significance today in quest to protect the natural environment. In the Concurrent List, the Amendment placed the item ‘*Forest*’³⁵ by because the subject of the forest originally belong to the State List,³⁶ this resulted into non-consistent policy by the State for protecting the forests. The Parliament has obtained law making power by introduction it in the Concurrent List, along with the State. By the virtue of this Parliament also have power to implement a uniform policy on forest management e.g. such as The Forest Conservation Act, 1980. Further the inclusion under schedule ‘*for protection of wild animals and birds*’ in the Concurrent List has also sanction the Parliament to pass a necessary law for the protection of biodiversity.³⁷

The Schedule was a landmark step for conservation of biodiversity, because the subject of forests was originally of State list as entry 19 which resulted into no uniform policy by the State to protect the forests. The placing of the subject forest at present in the Concurrent list by the Entry 17-A, along the State, Parliament has gain a law making power. Likewise, the insertion of the entry 17-B in the Concurrent List

³² C.M. Jariwala, *Environment and Justice, i*, (A P H Publishing Corporation, New Delhi, Edition, 2004)

³³ Article 48A of the Constitution of India Act, 1950

³⁴ *Ibid*, Article 51A-g

³⁵ *Ibid*, Entry 17-A

³⁶ *Ibid*, Entry 19

³⁷ *Ibid*, Entry 17-B

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has sanctioned the Parliament to pass a law with a view to the protection of wildlife in addition to already existing legislation in the form of Wildlife Protection Act 1972.

Our Country has also devised National Action Plan for the protection of wild animals and birds. By the Constitution 74th Amendment Act, 1992 Entry 8 was placed which provided for the Urban Local bodies, with the objectives for the function and promotion of ecological aspects to them.³⁸ In the Concurrent List, 42nd Amendment inserted Entries 17-A, 17-B, which provides for the forests, for the protection of wild animals and birds.³⁹ Correspondingly List I (Union List) Entries provide for entering agreements with foreign countries and implementing of agreements, treaties and conventions with foreign countries; List II (State List) comprise the provisions for agriculture protection against pest and prevention of plant diseases; protection, preservation and improvement of stock and prevention of animal diseases; fishing and fisheries within and beyond the territorial waters. The List III Entries (Concurrent List) concern with the subjects pertained to the prevention of cruelty to animals, prevention of the expansion from one State to another of infecting or pests affecting men, animals and plants.

In all these Indian legislation enacted before The Biological Diversity Act, 2002 there is no clearly provisions in respect of access benefit sharing but all this legislation are indirectly invoke their sustainable use of natural resources.

The Indian government has been working for biodiversity conservation even prior to the commencement of the CBD. The Indian Govt. initiated the Environment Information system i.e. a decentralized computerized network database system consisting of the focal points in the Ministry and chain network partners, known as ENVIS centres located with potential organisations throughout the countries.⁴⁰ It is a scheme for environmental information collection, collation, storage, retrieval and dissemination to policy planners, scientists, environmentalists, and researchers etc., India also envisaged the National Conservation Strategy and Policy Statement 1992, where the Indian government proposed for actions in relation to biodiversity conservation and protection.⁴¹

³⁸Twelfth Schedule of the Constitution of India, 1950

³⁹*Ibid*, Seventh Schedule

⁴⁰ Available at-<http://www.moef.org.>, last visited on July 09, 2020

⁴¹ Section 7 of the Biological Diversity Act 2002

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The government of India enacted the *Biological Diversity Act*, 2002, the *Biological Diversity Rules*, 2004 and in 2006, the National Environment Policy was introduced by the government. Further, the government made the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 and National Action Plan on Biodiversity, 2008. The policy highlights the importance of biodiversity conservation in relation to other components of the environment. It emphasises the need to formulate an appropriate system for Prior Informed Consent and Fair and Equitable Benefit sharing in respect of biological material and traditional knowledge of use of such biological material to enable the country and local communities respectively to derive economic benefits for providing access.

Currently, the access to bio-resources for research and for commercial utilisation including Intellectual Property Rights is regulated under the Biological Diversity Act, 2002. The Act primarily addresses the issues concerning access to genetic/biological resources and associated traditional knowledge by foreign nationals, institutions or companies, and equitable sharing of benefits arising out of the use of these resources and allied knowledge by the country and its people. ABS governance is through a three tier system, i.e., NBA at the national level, the State Biodiversity Board (SBB) and Biodiversity Management Committees (BMCs) at local levels. The NBA performs functions such as laying down the procedures and guidelines to implement various provisions of the Act.

The authority coordinates the activities of the State Biodiversity Boards and Biodiversity Management Committees by providing the needed technical assistance and guidance, as well as commissions studies and sponsors special initiatives.⁴² The NBA deals with the requests for access to bio-resources and associated traditional knowledge by foreign nationals, institutions or companies, and all matters pertaining to the transfer of research findings to any foreign national, imposition of terms and conditions to secure equitable sharing of benefits, establish sovereign rights over the bio-resources of India and approval for seeking any form of Intellectual Property Rights in or outside India for an invention based on research or information pertaining to a biological resource and associated traditional knowledge obtained from India. SBBs deal with matters relating to access to bio-resources by Indians for commercial

⁴² “Strengthening Institutional Structures to Implement the Biological Diversity Act”, India- UNDP Project, available at: <http://nbaindia.org/undp/>, last visited on July 09, 2020

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purposes and restrict any activity which violates the objectives of conservation, sustainable use and equitable sharing of benefits.⁴³ The functions of the BMCs include conservation, sustainable use, and documentation of biodiversity and chronicling of knowledge relating to biodiversity.

In order to safeguard the interests of the local people and to allow research by Indian citizens within the country, free access to biological resources for use within India for any purpose other than commercial use for Indian people has been given to the traditional physicians and other citizens. India has a bottom up approach, with the NBA at central level,⁴⁴ SBBs at state level⁴⁵ and BMCs at district bock level,⁴⁶ their roles have been elaborated further: NBA is the highest Authority to implementation the Act. Section- 3 of the Act⁴⁷ deals with the regulation of access to bio-resources. A person or a body corporate, not an Indian shall have to seek approval from the NBA for obtaining any biological resources occurring in India or knowledge thereto for research, ‘commercial utilization’, ‘bio-survey and bio-utilization’.⁴⁸ Under this provision the NBA restricts the access of bio-resources.

However, conservation or protection is not a part of this procedure and it has been mentioned as a part of function of SBBs and BMCs. The direct provision for ABS is Section 21 of the Act. It evokes the role of the NBA in determination of equitable benefit sharing.⁴⁹ NBA while granting approvals under Section 19 or Section 20 ensures that the terms and conditions subject to be permitted,⁵⁰ secures equitable sharing of benefits arising out of the use of accessed biological resources, their by-products, innovations and practices allied with their use and applications and knowledge relating thereto, however, in accordance with mutually agreed terms and conditions between the person applying for such approval, local bodies concerned and the benefit claimers.⁵¹ Further, the NBA, subject to any regulations prepared in this behalf, determines the benefit sharing which shall be given effect in certain other manners as well. The criteria for equitable sharing of benefit have been elaborated

⁴³ Section 8 of the Biological Diversity Act 2002

⁴⁴ *Ibid*, Section 22

⁴⁵ *Ibid*, Section 41

⁴⁶ *Ibid*, Section 3

⁴⁷ *Ibid*, Section 2 (f)

⁴⁸ Section 2 (d) of the Biological Diversity Act 2002

⁴⁹ *Ibid*, Section 21

⁵⁰ *Ibid*, Section 19

⁵¹ *Ibid*, Section 21 (1)

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under Rule 21 of the Biological Diversity Rules 2004. According to it, the formula for benefit sharing shall be determined on a case to case basis. In any case, 5% of the accessed benefit shall be earmarked for the NBA or boards, as the case may be for administrative charges. However, with the commencement of the Guidelines in 2014, there have been various changes in the benefit sharing mechanism.

In the 12th meeting of the NBA there was a proposal to introduce a set of Guidelines on ABS.⁵² It was further proposed that the guidelines must be made simple and pragmatic and shall include provisions in relation to the commercial exploitations of the bio-resources. In 2014 the ABS Guidelines came into existence. These guidelines mainly focus on the commercialization of the bio-resources and ABS related to it. They provide a mechanism in which the financial obligation of the user of genetic resources is to be determined for each of the activity identified earlier for which bio-resources are obtained; it also indicates how these benefits are to be shared.⁵³ However, the measures to be taken in relation to monitoring the access are in process under the SBBs.

The guidelines mainly focus on the financial obligations of the users of the bio-resources, how they shall be determined and the percentile of benefits to be shared. It is an extension of the Section 3 of the Act dealing with the process for access of the bio-resource and associated traditional knowledge.⁵⁴ The Act derives that the benefit sharing obligation on traders shall be 1.0 to 3.0 % and for manufactures it shall be 3.0 to 5.0 % of the purchase price of the biological resource.⁵⁵ In case of bio-resources having high economic value the benefit sharing shall be not less than 5.0%. Further, the ABS Guidelines states that the stakeholders, in case of commercializing the IPR granted on inventions related to genetic resources require to pay to the NBA such monetary or nonmonetary benefit, as agreed between the applicant and the NBA.⁵⁶ According to the ABS guidelines, benefit sharing may be done in monetary or nonmonetary modes, as agreed upon by the applicant and the NBA or SBB concerned in consultation with the BMC Benefit claimer, etc. Determination of benefit sharing is to be based on considerations such as commercial

⁵² Available at-<http://nbaindia.org>., last visited 9 July, 2020

⁵³ Wilson N, "Guidelines for access and benefit sharing for utilisation of biological resources based on Nagoya Protocol Effective", 20 (1) *Journal of Intellectual Property Rights* 67-70 (2015)

⁵⁴ Regulation 3 of the Access and Benefit Sharing Guidelines 2014

⁵⁵ *Ibid*, Regulation 8

⁵⁶ Regulation 9 of the Access and Benefit Sharing Guidelines, 2014

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operation of the biological resource, stages of research and development, amount of investment already made for research and development, nature of technology applied, potential market for the outcome of research, time-lines and milestones from initiation of research to development of the product and risks involved in commercialization of the product. Interestingly, the sum of benefit sharing is to remain the same whether the end product contains one or more biological resources while the remaining share is to be passed on to the BMC concerned or to benefit claimers.⁵⁷ Currently, all the states are in the process of implementing the guidelines. Notices are being issued by the SBBs to initiate ABS with the Indian company.

Commercial utilisation is the essence of ABS, and the absence of a systematic monitoring mechanism shall lead to an unsustainable ABS. ABS cannot be performed in isolation or at the cost of conservation. Therefore, monitoring of Biodiversity has to be a part of the ABS mechanism. So far, in relation to the ABS agreements reached in India there has been no specific obligation imposed in relation to biodiversity monitoring. To that extent, in view of the post Nagoya implementation, India will need to recognize “monitoring” as one of the conditions. A review of the Form I and Form III of the Act reveals the need to strengthen the context of biodiversity monitoring. In the recent past many SBBs have notified to industries to disclose the extent of use of bio-resources. Institutions have also received such notices.⁵⁸

The Ministry of Environment, Forest and Climate Change (MoEFCC) as the nodal ministry for the implementation of CBD in India initiated action for preparation of NR6 in early 2017 in association with the National Biodiversity Authority (NBA) and support from Global Environment Facility (GEF) through United Nations Development Programme (UNDP). The process began with extensive consultations with the multiple stakeholders at national and state levels. The stakeholders included representatives of the Central Government, state governments, State Biodiversity Boards (SBBs), other relevant government organisations, academia, civil society organisations, industry and business, domain experts, individuals and groups of people. A brochure comprising information on India’s National Biodiversity Action Plan (NBAP), National Biodiversity Targets (NBTs) and their linkages with Aichi

⁵⁷ *Ibid*, Regulation 15

⁵⁸ Balakrishna P & Ravikatta S K, “Access and benefit sharing as an innovative financing mechanism” 16 (2) *Asian Biotechnology and Development Review*, 53-70 (2014) Available at-<http://www.ris.org.in> ,last visited July 12, 2020

Biodiversity Targets and Sustainable Development Goals spelling out the requirements of national reporting was prepared and widely circulated to provide background information to seek relevant inputs from stakeholders. The brochure initially prepared in English was translated into eight different Indian languages to reach the largest possible number of stakeholders.

A dedicated web-portal for receiving inputs online for NR 6 further facilitated wider outreach to stakeholders. Six Regional Consultations covering all States were organised between July-September 2017.⁵⁹

1.2 STATEMENT OF PROBLEM

The government's new guidelines on access and benefit sharing notified in 2014 have only marginally added to what the act and its rules lay down. Moreover, the issues relating to biodiversity conservation law and policy in India are very complex, and are still evolving especially in the context of ABS and associated traditional knowledge. Thus, there is an urgent need to strengthen law and policy related to conservation of biodiversity in order to realise the sustainable development goals set out by the international community.

1.3 OBJECTIVES

The object of thesis is to discuss and explore the conservation of biodiversity law and policy; to highlight the shortcoming in law and policy and suggest better initiatives to mend in concern lacunas. Against this background, the study is intended;

- To highlight the issues and challenges relating to biodiversity and its conservation.
- To examine the international legal framework related for ABS.
- To evolved Access Benefit Sharing model in the light of CBD, which protect rights of local community and their traditional knowledge?

1.4 HYPOTHESES

The following propositions are to be tested in the thesis:

- Biodiversity is very fundamental to the fulfilment of human needs and essential for the survival of this planet. Biodiversity and its conservation

⁵⁹ Available at- www.nationalreport6.in., last Visited on Nov 25, 2020

is a collective responsibility of all nations by adopting additional protocol;

- There is a great threat to rich biodiversity of nature in India and the issues relating to biodiversity conservation law and policy are very complex and are still evolving particularly in the field of ABS model and associated traditional knowledge. And there is need to strengthen law and policy in India to conserve effectively biodiversity in general and ABS under Biodiversity Act in particular.

1.5 RESEARCH METHODOLOGY

The doctrinal method of research has been followed in this research work. The information's are based on the analysis of both primary method and secondary sources of data. The primary source of data would opt the descriptive research methodology for describing the biodiversity and related legal instruments. The secondary data is availed from various books, journals, magazines, newspapers, Government publications, earlier studies, media reports. The research problem demands for a detailed study of the conventions at international level and various legislations at national level along with the provisions under other national and international instruments related to the subject. All the thoughts and ideas in this thesis, that are not the researcher's own ideas, are duly cited. In pursuance of this uniform study, which is followed Indian Law Institute, citation format of footnoting have been adopted.

1.6 CHAPTERISATION

The thesis is divided into the following seven chapters:

- Chapter- I Introduction- this chapter introduced an overview on above title and described the Biodiversity related laws in contexts to Access and benefits sharing.
- Chapter- II Meaning and concept of Biodiversity Conservation and Access Benefit Sharing- under this chapter described meaning, concept of biodiversity conservation and Access and benefits sharing.
- Chapter- III International legal instruments for conservation of Biodiversity; access and benefit sharing- This chapter focal point is legal instruments related conservation of biodiversity, access and benefit sharing at international level.

- Chapter- IV Intellectual property rights regime and access benefit sharing- this chapter specially deals issues and relationship between Intellectual property rights and access benefit sharing.
- Chapter- V Access benefit sharing under Indian law and policy- this chapter described Indian laws and policies concerned to Access Benefit Sharing at present.
- Chapter- VI Access benefit sharing and Indian judiciary- this chapter focused Indian judiciary on Access Benefit Sharing related matters and issues.
- Chapter- VII Conclusion and Suggestions- this chapter conclude the above mentioned chapters and thereafter given some valuable suggestions.

1.7 REVIEW OF LITERATURE

The researcher has studied and reviewed various literature and concept of research work carried out in the thesis:

- **T. S. Krishnan, *Biodiversity and Environment*, Swastik Publishers and Distributors, Delhi, first edition (2008).** This book is a unique compilation of research articles in the field of biodiversity and environment. It provides a basic knowledge of ecosystems, productivity and biodiversity.
- **Ashok Kumar, *Environmental change and biodiversity*, Swastik Publication, Delhi, first edition (2011).** This work analyses various aspects of climate change and biodiversity.
- **Janamjit Singh, *Biodiversity: Planning for Sustainable Development*, Deep and Deep Publications Pvt. Ltd., New Delhi, (2006).** This book defines biodiversity, demonstrates its importance to life as we know it, and represents strategies and solution, including what we can do in our own homes and communities, for stopping the escalating rate of species extinction.
- **K. Venkataraman, *India's Biodiversity Act 2002 and its role in conservation*,** this article summarizes the main features of India's Biological Diversity Act 2002 (BD Act) and its role in biodiversity conservation in the country.
- **Kanchi Kohli, Shalini Bhutani, *Access to India's Biodiversity and Sharing Its Benefits*.** This article highlights the role of India on access and benefits sharing under CBD and its Nagoya Protocol on ABS. It also analyses what is contained in the 2014 ABS guidelines.

- **Philippe Cullet, *Intellectual Property Protection and Sustainable Development*, LexisNexis Butterworths, New Delhi, 2005.** The author attempts to explore the realm of intellectual property protection in light of sustainable development and the issues arising thereof. It focuses on the implementation of the law in India as well. The book in particular focuses on aspects pertaining to plant, genetic resources and biodiversity and the impact of the IPR regime on such bioresources and sustainable development thereof. It is pertinent to the present research as the book specially throws light on the interplay between IPR protection and Access and Benefit Sharing regime and also examines issues pertaining to the protection of traditional knowledge which is excluded from the ambit of the present day intellectual property regime.
- **S. Divan and A. Rosencranz, *Environmental Law and Policy: Cases, Material and Statutes*, Oxford India Paperbacks, 2nd edn., 2002.** The authors of the book have explored various aspects of environmental law regime in India and focuses not only on the legal provisions under the Constitution of India and the environmental legislations but also the judicial pronouncements and remedies created by the judiciary in this regard. The book identifies not only the existing legal regime but also the lacunas in the present-day system, including the existing lack of necessary precautionary measures to protect the environment. The book has been particularly relevant in understanding the judiciary's proactive role, the impact of public interest litigation and in studying its pronouncements pertaining to several relevant aspects of this research.
- **E.C. Kamau, B. Fedder, et. al., *The Nagoya Protocol on Access and Benefit Sharing: What is New and What are the Implications for Provider and User Countries and the Scientific Community?*** The authors of the article analyses the exercise of sovereign rights of states over the genetic resources within their national territory and its fair and equitable sharing under the realm of the 'Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits which is arising from Their Utilization to the Convention on Biological Diversity, 2010'. The article explores the substantive provisions of the Protocol and the framework thereunder to regulate the access and benefit sharing (ABS) of the biological resources and the associated traditional

knowledge (TK) of the local and indigenous communities. It further indicates the details pertaining to exchange of such resources between the providers and users of such resources and associated TK and elaborates upon the lacunas in the Nagoya Protocol and the necessary reforms in order to improve the implementation of the ABS regime.

- **R. K. Jospheh, *International Regime on Access and Benefit Sharing: Where Are We Now***. The author in this article highlights the existing limitations under the national legal framework, particularly with regards to biopiracy. It has traced the increasing incidents in biopiracy as the cause resulting in the negotiations which helped mold the Access and Benefit Sharing international regime. It further analyses the differences between the North and the South nations that led to an impasse in the discussions and were ultimately resolved in the 10th COP at Nagoya, Japan. This article further explores the nature of the stance taken by the developed countries and the concerns of the developing nations during the negotiations. It is in this backdrop that the Nagoya Protocol is analysed in order to assess whether the developing countries truly gained through it or not.
- **Stellina Jolly, *Access and Benefit Sharing under Nagoya Protocol and Sustainable Development-A Critical Analysis***. The author traces from history that the entire debate surrounding natural resources was conflicted since earlier bio-resources were considered to be the common heritage of mankind. However, with the development of technologies, rapid demand and exploitation of the south by the north resulted in the developing nations striving to claim right over the naturally occurring resources within its national jurisdiction and to protect them from exploitation. The article analyses these issues and assesses the development of the access and benefit sharing (ABS) regime which sought to be the answer to such disputes between the developing and developed nations of the world. The article further analyses the protection of the ABS regime and the effect of the protection of the fair and equitable sharing principle envisaged under the Nagoya Protocol in effectuating sustainable development.
- **E. Louka, *International Environmental Law, Fairness Effectiveness and World Order 310* (Cambridge, U.K., 2006)**. This book explores the legal framework pertaining to the management of global biodiversity and common

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resources. It draws from the increasing competing demands for the common resources and pursues the need for protection of the environment and its resources from the perspective of fairness and sustainable development. It analyses aspects of national laws, international environmental law regime and the existing legal frameworks pertaining to access, equitable and fair sharing and the use of biodiversity and associated resources.



CHAPTER- II
MEANING AND CONCEPT
OF BIODIVERSITY
CONSERVATION AND
ACCESS BENEFIT SHARING



CHAPTER- II

MEANING AND CONCEPT OF BIODIVERSITY CONSERVATION AND ACCESS BENEFIT SHARING

2.1 INTRODUCTION

Biodiversity is our most valuable but least appreciated resources.

-Edward O. Wilson

Biodiversity is the integral part of eco- balancing system of environment. The convention on biological diversity rests on the principle of sovereignty over natural resources. It ensures that the biodiversity conservation strategies are determined first and foremost at the national level on the basis of national priorities, and the national research effort. The global public good aspects of biodiversity loss are supposedly addressed by the Global Environment Facility¹.

The word “biodiversity” was first coined by Walter G. Rosen in 1986. The biosphere comprises complex collections innumerable organisms, known as the biodiversity, which constitute the vital life support for survival of human race. Biological diversity, abbreviated as biodiversity, represent the sum total of various life forms such as unicellular fungi, protozoa, bacteria, and multi cellular organisms such as plants, fishes, and mammals at various biological levels including gens, habitats, and ecosystem.²

Earth is the home to an astonishing biodiversity that provides food, medicine and other infrastructure necessary for the existence of species.³ Humankind derives tremendous benefits from the wide diversity of species on the earth. This amazing biodiversity is valued for many reasons.⁴ The crops and livestock we rely on for food

¹ Introduction: Biodiversity conservation: the problem of scale, published online By Cambridge University Press: 2 April, 2001 available at- <https://www.cambridge.org>. last visited on December13, 2020

² Gazala Habib, Some Concepts in Biodiversity, Department of Civil Engineering, IIT, Dehli. Available at- <https://web.iitd.ac.in>, last visited on December13, 2020

³Jonathan M. Levine and JannekeHilleRisLambers,“The Maintenance of Species Diversity” 3Nature Education Knowledge 10(2012), available at-<http://www.nature.com>., last visited on December13, 2020

⁴E.O Wilson and Frances M. Peter (eds.), *Biodiversity (1988)*,79 (National Academy Press, Washington D.C.,1999) available at-<https://www.nap.edu/catalog/989/biodiversity>., last visited on December13, 2020

are taken from wild species long ago domesticated, and future improvements to agricultural productivity and sustainability depend, to a large extent, on genes derived from wild rather than domesticated populations.

From a human health perspective, a significant fraction of medicines prescribed today contain bio-chemical compounds and they originally isolated from wild flora and fauna, totally depend upon it. In addition, diverse habitats are increasingly understood to be more stable in their provisioning of ecosystem services including clean water and the pollination of agricultural crops. But this biodiversity also poses a fundamental ecological puzzle. To understand this it is necessary to analyse the concept of biodiversity.

Humanity's survival depends on the conservation of nature, of the natural resources of the planet in the form of soil, water, the atmosphere, and of forest, plants, and life forms that these sustain.⁵ It is important for the maintenance of proper ecosystem that natural environment do not get disturbed, for this, existence of forests, wildlife and biodiversity diversity are essential.⁶

The Convention on Biological Diversity, 1992 of Article 1 deals objectives of this convention as such is Firstly- Global Conservation of Biodiversity, Second- Sustainable use of components of the Biological resources, and Third- The fair and Equitable sharing of Benefits arising from the Utilisation of Genetic resources.⁷

Benefit sharing is a relatively new notion which has been developed as a consequence of the rapidly changing paradigm concerning claims over biological and genetic resources, traditional knowledge and the strengthening of intellectual property rights to accommodate life patents.⁸ Intellectual Property Rights reflects an inherent tension between the strong desire to promote and reward creative energy and the desire to make the fruits of that creativity available to the public.⁹ Conservation of biodiversity is necessary to economic growth.

This chapter further systematically described and discuss meaning, concept and importance of Biodiversity Conservation, Access Benefit Sharing.

⁵ P.W. Birnie and A.E. Boyle, '*Conservation of Nature, Ecosystems, and Biodiversity: Principles and Problems*', 545, (Oxford University press, New Delhi,)

⁶ A. K. Tiwari, '*Environmental Law in Indi*', 109, (Deep and Deep Publications Pvt. Ltd, New Delhi,).

⁷ Article 1, Convention on Biological Diversity, 1992

⁸ Philippe Cullet, '*Intellectual Property Protection and Sustainable Development*', 163(Lexis Nexis Butterworth, NewDelhi,etd,2005).

⁹ G. Indira Priya Darsini and K. Uma Devi, '*Environmental Law and Sustainable Development*', 235,(Regal Publication , NewDelhi).

2.2 MEANING AND CONCEPT OF 'BIODIVERSITY'

The 'Biological Diversity' was first put forward by Norse and Mc Manus in the year 1980.¹⁰ And thereafter the word '*Biodiversity*' was first evidently coined by Walter, G. Rosen in the year 1986, The word "Biodiversity" has commonly denote to life itself on earth nowadays it is also used in socio-politics and environmental field in addition to various scientific disciplines.¹¹ 'Biodiversity' originated from the Greek word '*Bios*' which means '*Life*' and Latin word '*Diversitas*' which means '*Variety*' or '*Differences*'. Thus whole meaning of Biodiversity generalise the 'Variety of Life'.¹²

'The National Forum on Biodiversity' convened in Washington D.C, USA in September 1986 under the patronage of the National Academy of Science and the Smithsonian Institute. The word 'biodiversity' first appears in the *Biological Abstracts* 'Biosis' database in 1988 with four references, and by the end of December, 1994.

The biodiversity is also used as an abbreviation of the phrase 'biological diversity'. It is a complex topic covering many aspects of biological variations. In popular usage the word refers to all the individual and species living in a particular area, of we consider this area at its largest scale, the entire world- then biodiversity can be summarised as 'Life on Earth'.¹³

However 'diversity' is a concept which refers to the range of variation or differences among some set of entities; biological diversity thus refers to variety within the living world. The term 'biodiversity' is indeed commonly used to describe the number, variety and variability of living organisms. Running parallel to the evolution of species, the concept too has evolved. When species have been over collected by hobbyists for medicine, food or fragrance, in vitro propagation can provide an alternate source of plants and alleviate pressures on wild populations.¹⁴

¹⁰U. Kumar and M. Asija, *Principles and Conservation 4* (Agrobios India Jodhpur, 2ndedn., 2009)

¹¹ A. Ghilarov, *Biodiversity: Scientific problem or convenient myth* 304 (*Trends Ecology volume* 11)

¹² Available at- <https://www.natura-pacific.com/what-is-biodiversity-anyway-and-is-it-important/> last visited on December13, 2020.

¹³Niles Eldredge (ed.), *I Life on Earth, Encyclopedia of Biodiversity, Ecology and Evolution* 1 (Pentagon Press, New Delhi, 2004)

¹⁴Vera YurngamlaKapaiet. al., "In Vitro Propagation for Conservation of Rare and Threatened Plants of India – A Review"1(2) *I JBT* 1-14 (2010), available at: [http:// www.gbtrp.com.](http://www.gbtrp.com.), last visited on December13, 2020

Although initially it encompasses genetic diversity alone, it now embraces species variety within regions, various combinations of action, co-actions and re-action amongst organisms and in its broadest sense cultural diversity i.e., variety of social structures, belief systems and their linkage with climatic and ecological conditions. The conservation of biodiversity encompasses elements of saving, studying and using biodiversity sustainably.¹⁵

These several definitions are given below:-

According to the Oxford Dictionary defines the 'Biological Diversity' as "*the variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.*"¹⁶

According to the U.S. Congress Office of Technology Assessment, "Technologies to Maintain Biological Diversity," 1987: "*Biological Diversity refers to the variety and variability among living organisms and ecological complexes in which they occur. Diversity can be defined as the number of different items and their relative frequency. For biological diversity, these items are organized at many levels, ranging from complete ecosystems to the chemical structures that are the molecular basis of heredity. Thus, the term encompasses different ecosystems, species, genes, and their relative abundance.*"¹⁷

According to the Reid and Miller (1989) "*Biodiversity is the variety of the world's organisms, including their genetic diversity and the assemblages they form. It is the blanket term for the natural biological wealth and under-girds human life and wellbeing.*"

According to the Wilson (1992), "*the variety of organisms considered at all levels, from genetic variants belonging to the same species through arrays of species to arrays of genera, families, and still higher taxonomic levels; includes the variety of ecosystems, which comprise both the communities of organisms within particular habitat and the physical conditions under which they live.*"¹⁸

¹⁵ Neel Gaurav Mehta, "Biological Diversity Conservation: Issues and Options" 9*Ecology*, 13 (1995)

¹⁶ "Definition of biodiversity", available at: <http://www.oxforddictionaries.com>, last visited on December 13, 2020

¹⁷ "Scientific Definitions of Biodiversity", available at: <http://biodiversity.ca.gov>, last visited on December 13, 2020

¹⁸ *Supra* note 7.

According to the DeLong (1996) defined the term more comprehensively as, *“Biodiversity is an attribute of an area and specifically refers to the variety within and among living organisms, assemblages of living organisms, biotic communities, and biotic processes, whether naturally occurring or modified by humans. Biodiversity can be measured in terms of genetic diversity, the identity and number of different types of species, assemblages of species, biotic communities, biotic processes, the amount and the structure of each. It can be observed and measured at any spatial scale ranging from micro-sites and habitat patches to the entire biosphere”*.¹⁹

According to the Gaston & Spicer (2004), defines the as *“Biodiversity is the variety of life on earth and includes variation at all levels of biological organisation from genes to species to ecosystems. Genetic, organisms and ecological diversity are all elements of biodiversity with each including a number of components.”*

Convention on Biological Diversity, 1992 defines ‘Biological Diversity’ as to means *“the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this include diversity within species, between species and of ecosystems.”*²⁰

The expressions relating to fair and equitable benefit sharing are given in objective²¹ of Convention on Biological Diversity, 1992 these are as follows- the objectives of this Convention, to be pursued in accordance with its relevant provisions, are 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, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.²²

¹⁹Ian R. Swingland, “Biodiversity, Definition Of”, available at <http://www.uprm.edu>., last visited on December13, 2020

²⁰Article 2, Convention on Biological Diversity, 1992

²¹ *Supra* note 2, 5

²²Article 1 of Convention on Biological Diversity, 1992

“*Ex-situ conservation*” means the conservation of components of biological diversity outside their natural habitats.²³

“*In-situ conservation*” means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.²⁴

“*Sustainable use*” means the use of components of biological diversity in such manner and at such rate that does not lead to the long-term decline of the biological diversity thereby maintaining its potential to meet the needs and aspirations of present and future generations;²⁵

“*Access to and transfer of technology*” According to Article 16 of CBD each Contracting Party, be familiar with that technology includes biotechnology, and that both the access to and transfer of technology among Contracting Parties, which are essential elements for the attainment of the objectives of this Convention. The access to and transfer of technology undertakes subject of the provisions of this Article to provide and/or facilitate access for and transfer to the Contracting Parties of technologies that are associate to the conservation and sustainable use of Biological diversity and/or make use of genetic resources and do not cause adverse damage to the environment. The provisions of the convention oblige that the parties to take measures to give those parties which provide genetic resources, predominantly to developing countries, access to technologies, including technologies protected by patents and other intellectual properties rights.²⁶

After the one decade of CBD, 1992, the Indian parliament has passed an Act in respect of biodiversity and known as Biological Diversity Act, 2002. According to the Biological Diversity Act, 2002, “biological diversity” means “the variability among living organisms from all sources and the ecological complexes of which they

²³ *Ibid*, Article 2

²⁴ *Ibid*, Article 2

²⁵ Section 2(o) of the Biological Diversity Act, 2002

²⁶ Article 16.3 of the Convention on Biological Diversity, 1992

are part, and includes diversity within species or between species and of ecosystems.”²⁷

The Biodiversity Act, 2002 provides the comprehensive view of the entire relevant concept, which inspired by the past definition and modified accordance to the present context and circumstances.

Definitions of biodiversity range in scope from “the number of different species occurring in some location” to “all of the diversity and variability in nature” and “the variety of life and its processes.” A more comprehensive definition is “the variety of living organisms, the genetic differences among them, the communities and ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning, yet ever changing and adapting”.²⁸ This plethora of terms and definitions is one of the major stumbling blocks to reaching agreement in problem solving and decision making. If entities in a planning process view biodiversity in fundamentally different ways, agreement on management objectives and strategies for biodiversity conservation will be impaired.²⁹

Fair and equitable benefit sharing means sharing of benefits as determined by the National Biodiversity Authority under section 21;³⁰

This Act provides access to biological resources and traditional knowledge to foreign citizens, companies and non-resident Indians based on the ‘prior approval of the National Biodiversity Authority (NBA)’.³¹

The composition addresses the identity and richness of each biotic components, and the relative amount e.g., abundance, cover, biomass. Biotic components of ecosystems include genes, organisms, family units, populations, age classes, species and other taxonomic categories, trophic levels of animals, animal guilds and assemblages, plant communities, and interacting assemblages of plants, animals, and microorganisms.

²⁷ Article 2(b), The Biological Diversity Act, 2002

²⁸ R. F. Noss, and A. Y. Cooperrider, *Saving Nature's Legacy: Protecting and Restoring Biodiversity* 65 (Island Press, Washington, D.C. 1994)

²⁹ I. R. Swingland, *Commercialisation, structure and sustainability of biodiversity conservation* 21 Cited in M. Walkey, I. R. Swingland, and S. Russell, (Chapman and Hall, London, YEAR)

³⁰ Section 2(g) of the Biological Diversity Act, 2002

³¹ Section 3-6 of the Biological Diversity Act, 2002

2.3 IMPORTANCE OF BIOLOGICAL DIVERSITY

The biological diversity is the foundation upon which human civilization are built. Thousands of species of plants and animals supported the development of early societies, providing the basis for the evolution from hunting and gathering subsistence and industrial levels of organisation. Biodiversity is an extremely important part of life on the Earth. It is not only the variety of living organisms on our planet, but also the interdependence of all these living things, including humans. It thus creates and maintains ecological systems, the most recognizable of which are Earth's biomes, which can be divided into the broad categories of Forests, Tundra, Aquatic, Grasslands, and Deserts. Life is, in fact, one of the major features that distinguish biomes from one another. Biomes are defined as 'the world's major communities, classified according to the predominant vegetation and characterized by adaptations of organisms to that particular environment'. Without vegetation or organisms, these landscapes would be virtually indistinguishable from one another. Clearly life plays a major role in the function of ecosystems, and the variety, or diversity, of this life has played a major role in the evolution of the world.³²

The importance of biodiversity is essentially threefold: first, biodiversity provides an actual and potential source of biological resources including food pharmaceutical and other material values which support fisheries, soil conditions and parks; second, biodiversity contributes to the maintenance of biosphere in a condition which supports human and other life and third, biodiversity is worth maintaining for non-scientific reason of ethical and aesthetic value.³³ The natural environment provides the basic conditions without which humans could not survive. The conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties'.³⁴

³² Jennifer Trowbridge, "The Significance of Biodiversity: Why We Should Protect the Natural Environment", 103 *Biology* (2008), available at: <http://serendip.brynmawr.edu>., last visited on December 14, 2020

³³ Sairam Bhat, *Natural Resource Conservation Law* 242 (Sage Publications India Pvt. Ltd, New Delhi, 1st edn., 2010).

³⁴ Article 2, The Convention on Biological Diversity, 1992

This seems intuitive enough: we need to breathe, eat, drink and shelter ourselves and we get all this from the natural world. Biodiversity boosts ecosystem productivity where each species, no matter how small, all have an important role to play.

Health is our most basic human right. And the biodiversity is the foundation for the human health. By securing the life sustaining goods and services which biodiversity provides to us, the conservation and sustainable use of biodiversity can provide significant benefits to our health.³⁵ Structural attributes of biodiversity refer to the various vertical and horizontal components of a community or landscape and the organizational levels of plant and animal populations and assemblages. Considering only biotic, vegetative components of a landscape, horizontal structure consists of the size, shape, and spatial arrangement and juxtaposition of different plant communities; vertical structure consists of the foliage density and height of different vegetation layers. Structure can also refer to population, age and topographic structure, and other levels of community organization. In the context of rapidly changing economic and social realities, the conservation and sustainable utilization of biological diversity has become a very complex and contentious issue of fundamental importance.³⁶ The inclusion of structure in the meaning of biodiversity provides linkages with other concepts, such as habitat diversity and the plant community concept, for both of which vegetation structure is an important differentiating attribute. Structure may have been left out of most definitions of biodiversity because the concept of biodiversity evolved from the concept of ecological diversity, which primarily focused on species diversity.

The differences between these conceptual perspectives on the meaning of biodiversity, and the associated semantic problems, are not trivial. Management intended to maintain one facet of biodiversity will not necessarily maintain another. For example, a timber extraction program that is designed to conserve biodiversity in the sense of site species richness may well reduce biodiversity measured as genetic variation within the tree species harvested. Clearly, the maintenance of different

³⁵“Importance of Biodiversity on Human Health, Biodiversity and Global Health 1”, *UN CBD COP 10 Policy Brief* (2010), available at: <http://www.cbd.in.>, last visited on December 14, 2020

³⁶P.C. Kotwal and Sujoy Banerjee, *Biodiversity Conservation in Managed Forests and Protected Areas*, 60 (Agrobios India Jodhpur, 2009)

facets of biodiversity will require different management strategies and resources, and will meet different human needs.

Even if complete knowledge of particular areas could be assumed, and standard definitions of diversity are derived, the ranking of such areas in terms of their importance with respect to biological diversity remains problematic. Much depends on the scale that is being used. Thus, the question of what contribution a given area makes to global biological diversity is very different from the question of what contribution it makes to local, national, or regional biological diversity. This is because, even using a relatively simplified measure, any given area contributes to biological diversity in at least three different ways through its richness in numbers of species, through the endemism of these species,³⁷ and on the basis of degree of threat.

The relative importance of these three factors will inevitably change at different geographical scales, and sites of high regional importance may have little significance at a global level. None of these factors includes any explicit assessment of genetic diversity. Although the word biodiversity has already gained wide currency in the absence of a clear and unique meaning, greater precision will be required of its users if policy and programs are to be more effectively defined in the future. The ecological processes and genetic diversity is essential for the maintenance or sustainability of the living resources.³⁸

Access and benefit-sharing refers to the way in which genetic resources may be accessed, and how the benefits that result from their use are shared between the people or countries using the resources and the people or countries that provide them. Providers of genetic resources are governments or civil society bodies, which can include private land owners and communities within a country, who are entitled to provide access to genetic resources and share the benefits resulting from their use.

The access and benefit-sharing provisions of the Convention on Biological Diversity are designed to ensure that the physical access to genetic resources is facilitated and that the benefits obtained from their use are shared equitably with the

³⁷R. A. Mittermeier, I. R. Swingland, et.al., *Herpetology: Current Research on Amphibians and Reptiles*.59-80(K. Adler, ed. 1992)

³⁸Jboeve, "Why is biodiversity so important?" available at: <http://www.biodiv.in.>, last visited on December14, 2020

providers.³⁹ In some cases this also includes valuable traditional knowledge associated with genetic resources that comes from ILCs.

The benefits to be shared can be monetary, such as sharing royalties when the resources are used to create a commercial product, or non-monetary, such as the development of research skills and knowledge. It is vital that both users and providers understand and respect institutional frameworks such as those outlined by the CBD and in the Bonn Guidelines. These help governments to establish their own national frameworks which ensure that access and benefit-sharing happens in a fair and equitable way. Access and benefit-sharing is based on prior informed consent being granted by a provider to a user and negotiations between both parties to develop mutually agreed terms to ensure the fair and equitable sharing of genetic resources and associated benefits.

2.4 LEVELS OF BIODIVERSITY

Biodiversity is also generally defined in the terms of genes, species and ecosystems, corresponding to three fundamental and hierarchically-related levels of biological organisation *viz* Genetic diversity is the variety present at the level of genes;⁴⁰ Species diversity is the one component of the concept of biodiversity;⁴¹ The quantitative assessment of diversity at the ecosystem, habitat or community level remains problematic;⁴²

Biodiversity conservation requires the management of natural resources, and this in turn requires the measurement of these resources. Biodiversity measurement implies the need for some quantitative value that can be ascribed to the various measurements so these values can be compared.

A definition of biodiversity should portray the full scope of what the concept means, not just what can be measured and managed. In contrast, monitoring or management objectives must be attainable to be effective. Recognizing the distinction

³⁹ *Ibid.*

⁴⁰ "Biodiversity Theory: Three levels of Biodiversity", available at: [http://www.canadian bio diversity.mcgill.com](http://www.canadianbio diversity.mcgill.com), last visited on December 15, 2020

⁴¹ Mark McGinley and J. Emmett Duffy, "Species diversity" in Cutler J. Cleveland (Eds.), *Encyclopaedia of Earth*, (Environmental Information Coalition, National Council for Science and the Environment, Washington, D.C., 2008), available at: <http://www.eoearth.org>, last visited on December 15, 2020

⁴¹ *Ibid*

⁴² M.P. Singh, *et. al.*, *Conservation of Biodiversity and Natural Resources* 85 (Daya Publishing House, Delhi, 2004)

between a definition and management objectives should reduce the confusion between the meaning of biodiversity and the objectives for achieving biodiversity goals. Biodiversity is a broad totality and often embraces elements beyond species diversity or numbers. For example, a major debate in biological sciences over many decades has been that of pattern versus process, especially in systematic and evolutionary studies. Molecular biology and systematic have enabled ecologists to see that inferred history is important in framing appropriate questions, and this understanding has precipitated a real integration of these twin hierarchies pattern and process. Fundamental divisions remain, such as “straight” parsimony versus maximum likelihood in the phylogenetic interpretation of sequence data.⁴³

2.5 KINDS OF BIODIVERSITY

(1) GENETIC DIVERSITY:

Genetic diversity is reliant on the heritable variation within and between populations of organisms. New genetic variation arises in individuals by gene and chromosome mutations, and in organisms with sexual reproduction it can be spread through the population by recombination. It has been estimated that in humans and fruit flies alike, the number of possible combinations of different forms of each gene sequence exceeds the number of atoms in the universe.⁴⁴ A large amount of molecular variation in the mammalian immune system, for example, is possible on the basis of a small number of inherited genes.⁴⁵

(2) SPECIES DIVERSITY:

Historically, species are the fundamental descriptive units of the living world and this is why biodiversity is very commonly, and incorrectly, used as a synonym of species diversity, in particular of “species richness,” which is the number of species in a site or habitat. Discussion of global biodiversity is typically presented in terms of global numbers of species in different taxonomic groups. The species level is generally regarded as the most natural one at which to consider whole-organism diversity. While species are also the primary focus of evolutionary mechanisms, and the origination and extinction of species are the principal agents in governing

⁴³ *Supra note 32, 59*

⁴⁴ Thomas, R., *Genetic Diversity. In Global Biodiversity: Status of the Earth's Living Resources:* (World Conservation Monitoring Centre, eds.), 1–6, (Chapman and Hall, London, 1992).

⁴⁵ *Ibid*

biological diversity, species cannot be recognized and enumerated by systematizes with total precision.

The ecological importance of a species can have a direct effect on community structure, and thus on overall biological diversity. For example, a species of tropical rain forest tree that supports an endemic invertebrate fauna of a hundred species makes a greater contribution to the maintenance of global biological diversity than does a European alpine plant that may have no other species wholly dependent on it.

(3) ECOSYSTEM DIVERSITY :

While it is possible to define what is in principle meant by genetic and species diversity, it is difficult to make a quantitative assessment of diversity at the ecosystem, habitat, or community level. There is no unique definition or classification of ecosystems at the global level, and it is difficult in practice to assess ecosystem diversity other than on a local or regional basis, and then only largely in terms of vegetation. Ecosystems are further divorced from genes and species in that they explicitly include a biotic components, being partly determined by soil/parent material and climate. To get around this difficulty, ecosystem diversity is often evaluated through measures of the diversity of the component species. This may involve assessment of the relative abundance of different species as well as consideration of the types of species. Ecosystem further differs from genes and species in that they explicitly include a biotic component, being partly determined by soil parent material and climate⁴⁶.

A hypothetical ecosystem consisting only of several plant species would be less diverse than one with the same number of species but that included animal herbivores and predators. One common approach to beta diversity is to look at how species diversity changes along a gradient.⁴⁷ In examining beta diversity, the only reliable predictor of community similarity is to compare the species composition of the site immediately adjacent. Finally the ecological processes and genetic diversity is essential for the maintenance or sustainability of the living resources.⁴⁸ In the context of rapidly changing economic and social realities, the conservation and sustainable

⁴⁶ Available at <http://www.unep-wcmc.org/waht-is-biodiversity-50html>, last visited on December 15, 2020

⁴⁷ M.P. Singh et al., *Conservation of Biodiversity and Natural Resources*, 85 (Daya Publishing House, Delhi : 2004.)

⁴⁸ Jboeve, "Why is biodiversity so important?" Available at http://www.biodiv.be/biodiversity/about_biodiv/importance-biodiv/, last visited on December 15, 2020

utilization of biological diversity has become a very complex and contentious issue of fundamental importance⁴⁹.

The need for an unequivocal and precise meaning of biodiversity that is scientifically sensible and universally applicable is imperative to help guide the design of policy and programs for the future, as well as to make critical decisions in the present. Currently, such a definition does not exist. As a concept, biodiversity is ubiquitous and useful, particular and confusing; and for this reason it is constantly redefined on nearly every occasion. One of the many reasons for this state of affairs is that the definition of biodiversity affects objectives in national and regional research and conservation management, and in international funding priorities. One could easily promote a timber extraction or non-timber forest product program that conserves species richness at the expense of genetic diversity. The degradation of natural systems due to excessive consumption and misuse leads to various calamities. Conservation of nature and natural resources acquires great significance in this context. It can be said that the welfare of the whole human race to a great extent depends on such conservation.⁵⁰

2.6 CONCLUSION

On the above discussion of this chapter- II lastly we find that biodiversity is our life. If the biodiversity got lost at this rate then in near future, the survival of human being will be threatened. So, it is our moral duty to conserve Biodiversity as well our environment. Long term maintenance of species and their management requires co-operative efforts across entire landscapes. Biodiversity should be dealt with at scale of habitats are ecosystems rather than at species level.

The natural environment provides the basic conditions without which humans could not survive. The conservation of ecosystems is vital role played life cycle of species, natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings. The access and benefit-sharing provisions of the Convention on Biological Diversity are designed to ensure that the physical access to genetic resources is facilitated and that the benefits obtained from their use are shared equitably with the providers.

⁴⁹ P.C. Kotwal and Sujoy Banerjee, *Biodiversity Conservation in Managed Forests and Protocol Areas*, 60 (Agrobios (Reprint), Jodhpur, 2009).

⁵⁰ M.C. Valson, "Biodiversity Conservation: Challenges and Legal Solutions", 23 *Cochin Law Review* 135 (1999)

MEANING AND CONCEPT OF BIODIVERSITY CONSERVATION AND ACCESS BENEFIT SHARING

The Indian parliament has passed an Act in respect of biodiversity and known as Biological Diversity Act, 2002. According to the Biological Diversity Act, 2002, “biological diversity” means “the variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species or between species and of eco-systems”. The above Act provides the comprehensive view of the entire relevant concept, which inspired by the past definition and modified accordance to the present context and circumstances.



CHAPTER-III

*INTERNATIONAL LEGAL
INSTRUMENTS FOR
CONSERVATION OF
BIODIVERSITY, ACCESS
AND BENEFIT SHARING
ACCESS BENEFIT SHARING*



CHAPTER- III

**INTERNATIONAL LEGAL INSTRUMENTS FOR
CONSERVATION OF BIODIVERSITY, ACCESS AND BENEFIT
SHARING**

3.1 INTRODUCTION

Biodiversity is the greatest treasure we have... Its diminishment is to be prevented at all cost.

–Thomas Eisner

Biodiversity is the essential feature of environment and their conservation should be must for species lives possibilities on the earth. The rapid developments of economic, scientific and technological advancements have shown massive consequence in the form of degradation of ecological balances.¹ The survival of mankind totally depends on the conservation of natural resources available on the planet, in the form of soil, water, the atmosphere, and of the forests, plants, flora and fauna.² Biodiversity is central to sustainable development. It is critical for reducing poverty, creating sustainable livelihood and helping communities adapt to climate change. Biodiversity is the variety of life on earth. Biodiversity is generally considered as an ‘umbrella term’ referring to organisms found within the living world.³ It is the lifeblood of sustainable development and green economies. Yet it is being run down at an unprecedented rate as human populations, and increase in their levels of consumption.⁴

These have been several benefits gotten from biodiversity; it is under serious threat as a result of human activities. The main dangers world-wide are population growth and resource consumption, climate change and global warming, habitat

¹ Phillpe Cullet, *Intellectual Property Protection and Sustainable Development* 90 (Lexis Nexis Butterworth, New Delhi, 2005)

² P.W. Birnie and A.E. Boyle, *International Law and the Environment* 545 (Oxford University Press, New Delhi, 2nd edn., 2009)

³ B.B.Hosetti and K.L.Naik, *Biodiversity: Concept, Definition, Types and Diversity Indices* 1 (Aavishkar Publishers Distributors, Jaipur, 1st edn, 2013)

⁴ available at- www.iied.org., last visited on Nov 12, 2020

conversion and urbanization, sustainable developments and invasive alien species, over-exploitation of natural resources and environmental degradation.

There have been several significant international efforts for the protection of global environment in the pre and post Stockholm Conference, 1972 which we further discuss in this chapter. In the light of various conventions, Principles of Stockholm Conference, Convention on International Trade in Endangered Species of Wild Fauna and Flora, World Conservation Strategy, International Plant Protection Convention, Convention on Wetlands of International Importance (Ramsar Convention), Bonn Convention on Conservation of Migratory Birds, the United Nations Environment Programme, The United Nations Conference on Environment and Development, Convention on Biological Diversity, Cartagena Protocol on Bio-safety, Nagoya Protocol on Access to Benefit Sharing. These measures protect biosphere as a whole and are indirectly helpful in the conservation and protection of biological diversity.⁵

Access and benefit sharing has been a key feature of the Convention on Biological Diversity since its signing in 1992. Within the context of access and benefit sharing, prior informed consent as a condition of access to biological resources has been an important concern for many signatories. Access and Benefit Sharing (ABS) has been developed by ICIMOD with support from the German Federal Ministry for Economic Cooperation and Development (BMZ) through German Technical Cooperation (GTZ) to help increase the capability of local level staff of organisations and others involved in developing the capacity of indigenous, marginalised, and other local communities in the bio-prospecting process. Some countries in the Hindu Kush-Himalayan region, like Bhutan and India, have developed and enforced ABS legislation, while others like China have accommodated it within the existing legal framework through legal amendments. The remainder have draft legislation that they are in the process of promulgating or have only just embarked on developing the approach.⁶

⁵ R.A. Malviya, "Biodiversity and international environmental law with special reference to Biological Diversity Convention", 4 *J.I.L.I.* 631 (2001)

⁶ Krishna Prasad Oli and Tara Devi Thakal, *Access and Benefit Sharing from Genetic Resources and Associated Traditional Knowledge*, 3 (Hill Side Press (P) Ltd., Kathmandu, 2009)

Some recent developments have put several international frameworks in place. In April 2002, the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization were adopted at the sixth Conference of the Parties to the CBD. In November 2001, the International Treaty on Plant Genetic Resources for Food and Agriculture was approved by the United Nations Food and Agriculture Organization (FAO).

Further this chapter focus and discuss the Biological Diversity concerned international instruments developments for conservation of biodiversity, access and benefits' sharing issues.

3.2 INTERNATIONAL INSTRUMENTS TO REGULATE BIODIVERSITY

World level protection for biodiversity, it has been several significant international efforts for the protection of biodiversity. In this reference Stockholm conference is a leading one. Therefore, global legal development for the conservation of biodiversity can be classified in the pre and post Stockholm Conference era, which are discussed as under:

3.2.1 PRE- STOCKHOLM CONFERENCE EFFORTS (1946-1971)

I. International Convention for the Regulation of Whaling, 1946

The International Convention for the Regulation of Whaling is an international initiative signed in the year 1946 to make whaling sustainable. It governs the commercial, scientific and aboriginal subsistence whaling practices of fifty-nine member nations. It was signed by 42 nations in Washington, D. C. on December 2, 1946 and came into force on November 10, 1948.⁷

The Objectives of convention *inter alia* include, protection of all whale species from overhunting; establishment of a system of International regulation for the whale fisheries to ensure proper conservation and development of whale stocks; safeguarding for future generations the great natural resources represented by whale stocks and to achieve the optimum level of whales stocks as rapidly as possible without causing widespread economic and nutritional distress. The Commission was empowered to make recommendations to any or all Contracting Governments on

⁷ *Supra* note 2, 347

any matters which relate to whales or whaling and to the objectives and purposes of this Convention.⁸

II. International Convention for the Protection of Birds, 1950

This Convention came into force on 18, October, 1950 at Paris. The countries after realizing the risk of extermination which threatens certain species of birds and concerned about the numerical decrease in other species, particularly migratory species considered that in the interests of science, the protection of nature and economy of each nation, all birds should as a matter of principle be protected. The main objectives of the Convention include protection of birds in wild state; and to amend the International Convention for the protection of Birds useful to Agriculture.⁹

The High Contracting Parties undertake to prohibit the methods enumerated below as being of such a nature as to result in the mass killing or capture of birds or to cause them unnecessary suffering. Parties undertake gradually to introduce into their legislation measures designed to prohibit or restrict-¹⁰

1. Their use, snares, bird-line, traps, hooks, nets, poisoned bait, stupefying agents, blinded decoy-birds;
2. Decoy ponds with nets; mirrors, torches and other artificial lights;
3. Fishing nets or tackles for capture of aquatic birds;
4. Magazine or automatic sporting- guns holding more than two cartridges; in general, all firearms, other than shoulder arms;
5. The pursuit and shooting of birds from motorboats in inland water;
6. The use of motor vehicles or air-borne machines to shoot or drive birds;
7. The offering of rewards for the capture or killing of birds;
8. The right of unrestricted shooting and netting shall be regulated throughout the year and suspended during the breeding season on the sea and along banks and coasts.¹¹

All other methods designed for the mass capture or killing of birds.¹² If, in a particular region, one species is found to be jeopardizing the future of certain agricultural or animal products by damaging fields, vineyards gardens, orchards,

⁸ Article 6 of the International Convention for the Regulation of Whaling, 1946

⁹ available at- www.sedac.ceisin.org., last visited on Nov 12, 2020

¹⁰ available at- www.ecolex.org., last visited on Nov 12, 2020

¹¹ *Supra note 9*

¹² Article 5 of the International Convention on the Protection of Birds, 1950

woods, game or fish or threatening to destroy or simply diminish one or more species whose conservation is desirable, the appropriate authorities may issue individual permits, lifting the prohibitions established in Articles 2 and 5 in the case of that species. It shall, however be unlawful to purchase or sell birds killed in this manner or to transport them outside the region where they were killed.¹³ In each country, the prohibitions enumerated in Article 3 shall not apply to the plumage of species of birds which may be killed there.¹⁴ Each Contracting Party undertakes to arrange a list of birds which may lawfully be killed or captured in its own territory, subject to compliance with the conditions laid down in this Convention.¹⁵

III. International Plant Protection Convention, 1951

The Convention on International Plant Protection was signed on 1 May, 1952. It is a multilateral treaty deposited with the Food and Agriculture Organisation of the United Nations (FAO) proposed this convention on the recommend of a Contracting Government to meet special problems of plant protection which require particular attention or action.¹⁶

The Objectives of the Convention are to provide International cooperation in controlling pests and diseases of plants and plants products; prevent their introduction and spread across national boundaries; and to adopt the legislative, technical and administrative measures specified in the Convention. Each Government Contracting shall make provision of it, as soon as possible and to the best of its ability, for an official plant protection organization with the following main functions:¹⁷ the distribution of information within country regarding the pests and diseases of plants and plants products and the means of their prevention and control; in the area of plant protection.¹⁸

Each Contracting Government shall make arrangements for the issue of phytosanitary certificates to accord with the plant protection regulations of other contracting Governments.¹⁹ With the aim of preventing the introduction of diseases and pests of plants into their territories, contracting Government shall have full

¹³ *Ibid*, Article 6

¹⁴ *Ibid*, Article 7

¹⁵ *Ibid*, Article 8

¹⁶ Available at- www.iipc.int, last visited on Nov 17, 2020

¹⁷ Article 4 of the International Plant Protection Convention, 1951

¹⁸ *Ibid*, Article 5

¹⁹ *Ibid*, Article 6

authority to regulate the entry of plants and plants products, and to this end, may prescribe restrictions or requirements concerning the importation of plants and plants products, and prohibit the importation of plants or plants products, and inspect or detain particular consignments of plants and plants products, treat, destroy or refuse entry to particular consignments of plants or plants products.²⁰

The Contracting Governments undertake to co-operate with one another in establishing regional plant protection organizations in appropriate areas. The regional plant protection organizations shall function as the coordinating bodies in the areas covered and shall participate in various activities to achieve the objectives of this Convention.²¹

IV. Declaration on the Permanent Sovereignty over Natural Resources, 1962

The General Assembly adopted resolution 1803 (XVII) on the “Permanent Sovereignty over Natural Resources” on 14 December 1962 by 87 votes in favour to 2 against, with 12 abstentions²².

The General Assembly, recalling its resolutions on 21 December 1952, established the Commission on Permanent Sovereignty over Natural Resources and instructed it to conduct a full survey of the status of permanent sovereignty over natural wealth and resources as a basic constituent of the right to self-determination, with recommendations, where necessary, for its strengthening, and decided further, in the conduct of full survey of the status of the permanent sovereignty of peoples and nations over their natural wealth and resources, due regard should be paid to the rights and duties of the States under international law and to the importance of encouraging international cooperation in the economic development of developing countries.²³

The Declaration also states that the free and beneficial exercise of the sovereignty of peoples and nations over their natural resources must be furthered by the mutual respect of States based on their sovereign equality; and foreign investment agreements freely entered into by, or between, sovereign States shall be observed in good faith; States and international organizations shall strictly and

²⁰ *Ibid*, Article 7

²¹ *Ibid*, Article 9

²² Available at [www.https://legal.un.org/avl/ha/ga_1803/ga_1803.html](https://legal.un.org/avl/ha/ga_1803/ga_1803.html), last visited on Nov 18, 2020

²³ Available at <https://www.ohchr.org/EN/ProfessionalInterest/pages/NaturalResources.aspx>, last visited on Nov 18, 2020

conscientiously respect the sovereignty of peoples and nations over their natural wealth and resources in accordance with the Charter and the principles set forth in the present resolution.

V. Agreed Measures for the Conservation of Antarctic Fauna and Flora, 1964

It entered into force on 1 November, 1982. The Participating Governments shall prepare and circulate to members of expeditions and stations information to ensure understanding and observance of the provisions of these Agreed Measures, setting forth in particular prohibited activities, and providing lists of specially protected species and specially areas.

The objectives of the Treaty include the following:²⁴

1. To recognize the scientific importance of the study of Antarctic fauna and flora, their adaptation to their rigorous environment, and their interrelationship with that environment;
2. To consider the unique nature of these fauna and flora, their circumpolar range, and particularly their defenselessness and susceptibility to extermination; To promote and achieve the objectives of protection, scientific study,
3. Rational use of these fauna and flora.

VI. Convention on Wetlands of International Importance (Ramsar Convention), 1971

The launching of a project in 1961 with focus on wetlands by the IUCN can be considered to be the beginning of IUCN's interest in wetlands. The Wetland Convention (RAMSAR) was the first World-wide conservation treaty and the first to deal only with habitat was signed in 1971.²⁵

The treaty conserves quarry species and wetlands that are being threatened by drainage and pollution. Under the treaty each party agreed to promote "wise use, of all wetlands of importance" and to promote research on wetlands.²⁶ The Convention is an International treaty for the conservation and sustainable utilization of wetlands, i.e. to stem the progressive encroachment on and loss of wetlands now

²⁴ Available at: <http://www.unece.org>, last visited on Nov 18, 2020

²⁵ Available at-<http://www.ramsar.org>, last visited on Nov 18, 2020

²⁶ Anwar Sadat, "The Role of IUCN in the Governance of Biological Resources" Vol. 45 No .4, *JILI*, 2005.

and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value.

The Contracting Parties shall formulate and implement planning to promote the conservation of the wetlands and their wise use.²⁷ The Parties shall establish “nature reserves” on wetland and to compensate for any loss of wetland resources, increase waterfowl population through management, promote training of personnel competent in the wetland research management and wardening.²⁸ Each Contracting Party shall consult each other about implementing obligations arising out of the convention especially when wetland extends over territories of more than one contracting party.²⁹ Therefore the above conventions are not directly related with Access Benefit sharing but it indirectly deals with biodiversity and natural genetics recourse management.

3.2.2 POST -STOCKHOLM CONFERENCE (1972-1991)

The concern for the Conservation of Biodiversity at global level figured for the first time in the discussions at U.N Conference on the Human Environment held at the Stockholm in 1972. Though the United Nations Environmental programme identified conservation as a priority area in 1973, it was only towards late 1980’s that systematic and concerted efforts to look at Biodiversity Conservation profile at International level started with constitution on an ad hoc working group of experts on biological diversity by UNEP in 1987. By its Resolution on Institutional and Financial Arrangements for International Environmental Cooperation adopted, the general assembly broadly gave effect to the organizational recommendations made at the Conference.³⁰ This body was conferred global jurisdiction and was mandated to keep under review the world Environmental situation. Eventually, an expert group was constituted by UNEP which started its work in 1989 culminating in the convention on biological diversity at U.N conference on environment and development held at Rio-de-Janerio in June 1992. Hence a number of important international conventions and regional instruments have emerged after Stockholm conference for the conservation and protection of world’s natural environment.³¹

²⁷ Article 3 of the Convention on Wetlands of International Importance (Ramsar Convention), 1971

²⁸ *Ibid*, Article 4

²⁹ *Ibid*, Article 5

³⁰ Aruna Venkat, *Environmental Law and Policy*, 18-19 (PHI Learning Pvt. Ltd., New Delhi, 1st edn.,2011)

³¹ *Supra note*- 28, 20

I. The United Nations Conference on the Human Environment, 1972

In response to growing worldwide concern with environmental issues the General Assembly organized the United Nations Conference on the Human Environment which was held in Stockholm in 1972 and led to the creation of the United Nations Environment Programme in the same year. The initial stages of the conference saw the emergence of two conflicting approaches. The first approach insisted that the primary concern of the conference should be regarding the human impact on the environment with emphasis on the control of pollution and conservation of natural resources. Whereas the second approach laid emphasis on social and economic development as the real issue.³² It considered the need for common outlook and for common principles to inspire and guide the people of the world in the preservation and enhancement of the world. The Conference placed the issue of the protection of biosphere on the official agenda of international policy and law. Further the Conference placed following agendas:

- a) Planning and management of human settlements for environmental quality.
- b) Environmental aspects of natural resources management.
- c) Identifications and control of pollutants and nuisances of broad international significance.
- d) Educational informative social and cultural aspects of environmental issues.
- e) Development and environment.
- f) International organizational implication of action proposals.

The Conference resulted in four initiatives at the normative, institutional, programmatic, and financial levels which altogether provided the driving force for the developments in the United Nations during next decade and beyond. The first was the adoption of the Stockholm Conference on the Human Environment aims to inspire and guide the peoples of the world in the preservation and enhancement of the human environment'. The conference was widely recognized as the beginning of modern politics for global environmental governance. Through the Stockholm Conference with 7 proclamations and 26 principles, environmental protection was

³² P.S. Jaswal and Nishtha Jaswal, *Environmental Law*, 94 (Allahabad Law Agency, Haryana, 3rd edn., 2009)

made an overall objective for the international community.³³ The second was the establishment of a new institution within United Nations the United Nations Environment programme (UNEP). The third was the adoption of an Action plan for the development of environmental policy to be administered by UNEP and fourth was the institution by voluntary contributions, of an Environment fund.

In relation to Biodiversity Conservation the Stockholm Conference is the first document to explicitly recognize the right to a healthy environment, the declaration places great emphasis on protecting both species and their habitat. The provisions of the declaration are more policy oriented. The need to take account to nature conservation and wildlife protection in economic development planning was identified but not in terms which would rule out exploitation of natural resources. The Conference proclaims that the earth's natural resources must be safeguarded for the benefit of present and future generations³⁴ and its capacity to produce vital renewable resources must be maintained and if practicable restored or improved.³⁵ The Conference also puts obligation on the humans to safeguard and wisely manage the heritage of wildlife and its habitat which are now gravely imperiled by a combination of adverse factors.³⁶ The Conference under Principle 7 also provides for the protection of marine life by preventing hazardous pollution in the seas.

II. The United Nations Environment Programme, 1972

United Nations Environmental Programme was launched by the UN General Assembly in 1972 as a follow-up to the first United Nations Conference on Human Environment (UNCHE) to meet the urgent need for a permanent institutional arrangement within the United Nations system for the protection and improvement of the environment system.³⁷ The United Nations Environmental Program provides for the monitoring of environmental threats throughout the globe but the program's function is mainly to "coordinate efforts of the other United Nations bodies rather than to undertake an independent course of action which would shape the future."³⁸

³³ United Nations organisation, Report: *Report of the United Nations Conference on the Human Environment*, 2-65 (5-16 June, 1972) Available at <http://www.un-documents.net/aconf48-14r1>. last visited on Nov 18, 2020

³⁴ Principle 2, Stockholm Declaration of Human Environment, 1972

³⁵ *Ibid*, Principle 3

³⁶ *Ibid*, Principle 4

³⁷ Bharat H. Desai, *Mapping the Future of International Environmental Governance*, 45 Ulfstein / Yearbook of International Environmental Law, vol. 13(2003)

³⁸ Available at-<http://www.amulrev.com>., last visited on Nov 18, 2020

Since its establishment the UNEP has attempted to find solutions to various environmental problems, including pollution in the Mediterranean sea; the threat to aquatic resources posed by human economic activity; deforestation desertification and drought; the depletion of the Earth's ozone layer by human-produced chemicals; and global warming much disagreement has arisen regarding the scientific bases of environmental concerns and the question of how to combine the goals of environmental protection and development. In other instances developed countries have objected to the imposition of environmental standards, fearing that such regulations will hamper economic growth and erode their standard of living³⁹.

Thus, the proposals for transforming it into a specialized agency was initiated at Rio Conference in 1992 but was turned down by developed states. A further attempt to enhance UNEP's role was followed at special resolution of General Assembly in 1997 where decision was taken to revitalize UNEP, by establishing the Global Ministerial forum to give it more authoritative sense within UN system.⁴⁰

Achievement of United Nations Environmental Programme, 1972:

In the compliance of this Programme further two conferences held, known as The Stockholm and The Rio Declarations both the development of the law bearing on environmental liability and compensation and also international treaty has been made in this Programme,. Whereas Stockholm Principle 22 refers to international law only, the corresponding Rio Principle 13 refers to both national and international law. Notwithstanding these clear mandates, States have tended to shy away from addressing the matter head-on or comprehensively, preferring instead to establish so-called private law regimes which focus on private actors' liability, while mostly excluding consideration of States' accountability.

Recent developments, however, when taken together, can provide a basic frame of reference for issues related to environmental liability and compensation, be that at national or international level.

These developments include, in particular, the work of the International Law Commission, especially its draft Principles on Allocation of Loss in the Case of Trans-boundary Harm Arising out of Hazardous Activities; and the 2010 UNEP

³⁹ Available at www.ecolex.org, last visited on Nov 18, 2020

⁴⁰ Bharat H. Desai, "The Quest for a United Nations specialized agency for environment", (The Round Table, Vol. 101, NO.2, April 2012), available at <http://www.jnu.ac.in>, last visited on Nov 18, 2020

Guidelines for the Development of Domestic Legislation on Liability, Response Action and Compensation for Damage Caused by Activities Dangerous to the Environment. In this vein, therefore, it might be argued that today the expectations of legislative progress generated by the Stockholm and Rio Declarations have finally come to be realized, at least in large part⁴¹.

III. Convention on International Trade in Endangered species of Wild Fauna and Flora, 1973

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments, which was drafted as a result of a resolution adopted in 1963 at a meeting of members of the World Conservation Union (IUCN). The main aim and objective of this Convention is to ensure that international trade in specimens of wild animals and plants. And it made amend to not threaten the survival of flora and fauna. Further it accords varying degrees of protection to more than 33,000 species of animals and plants, and to recognize the ever growing value of wild flora and fauna from aesthetic, scientific, cultural, recreational and economic point of view, and that international cooperation is essential for the protection of certain species of wild flora and fauna against over exploitation through international trade.⁴²

The primary aims and objectives of Convention are the following:

1. To make sure that international trade in specimens of wild animals & plants;
2. Doesn't threaten the survival of flora & fauna and it accords varying degrees of protection to more than 33,000 species;
3. To be on familiar terms with the ever growing worth of wild flora and fauna from aesthetic;
4. Cultural, economic, recreational and scientific point of view, and that international cooperation is necessary for the protection of certain species of wild flora and fauna against over exploitation through international trade;
5. To recognize that wild fauna and flora are irreplaceable part of the natural systems of planet which must be protected for the next

⁴¹Available at- <https://legal.un.org/avl/ha/dunche/dunche.html>, last visited on Nov 18, 2020

⁴²Stuart Bell and D. McGillivray, *Environmental Law*, 681 (Oxford University press, New Delhi, 9th edn, 2008)

generations to come, the Convention has divided such species into three categories.

There are some exemptions relating for the trade, for e. g., the provisions related to Articles 3, 4 and 5 shall be applicable to the transit or trans-shipment of specimens through or in the territory of a Party while the specimens remain in Custom control and where a Managing Authority of the State of export and re-export is confident that a specimen was obtained before the provisions of the present Convention applied to that specimen.

The provisions of Articles 3, 4 and 5 shall not be applicable to specimens that are personal or household effects. This exemption shall not be applicable where in case of specimens of a species included in Appendix I and II, they were acquired by the owner outside his State of usual residence, and are being imported into that State.⁴³

Wherever, export or re-export is to, or import is from, a State not a Party to the present Convention, similar documentations issued by the competent authorities in that State which substantially fulfill the requirements of the present Convention for permits and certificates may be acknowledged in lieu thereof by any Party.⁴⁴ The Convention also stress upon the States to make that the domestic laws for restricting or prohibiting trade, taking possession or transport of specimens of species and penalties for the infringement of such provisions.⁴⁵

The competent managing authority of the exporting state is expected to check that an import permit has been prudently secured and that the importing state will be able to mind for the specimen adequately. Some notable animal species include the gorilla, the chimpanzee, tigers, Asiatic lion, leopards, jaguar, cheetah, Asian elephant, some populations of African elephant and all Rhinoceros species.⁴⁶

IV. Bonn Convention on Conservation of Migratory Birds, 1979

This convention is an inter-governmental treaty, concluded under the guidance of the United Nations Environment Programme (UNEP), concerned with the conservation of wildlife and habitats at global scale. From the time Conventions

⁴³ Article 7 of the Convention on International Trade in Endangered species of Wild Fauna and Flora, 1973

⁴⁴ *Ibid*, Article 10

⁴⁵ *Ibid*, Article 14

⁴⁶ Available at- www.envn.for.nic.in., last visited on Nov19, 2020

entry into force, its membership has steadily growing which include over parties from Asia, Africa, American continents, Europe and Oceania. The Convention was signed in the year 1979 at Bonn and finally entered into force in 1983. Many of the migratory species threatened with extinction are listed and the Parties endeavor towards protecting these animals, conserving or restoring the places where they originally reside, mitigating obstacles to migration and controlling other factors that might endanger them. Besides establishing obligations for each State joining the Convention, the convention support concerted action among the States of many of these species.⁴⁷

The Parties which are Range States of a migratory species are listed in Appendix I shall ensure to conserve and, where feasible and appropriate, restore those habitats of the species which are of very important in eradicating the species from danger of extinction; and to prevent, remove, compensate for or minimize the unfavorable effects of activities or barrier that seriously hamper or prevent the migration of the species.⁴⁸ The parties that are Range States of a migratory species listed in Appendix I shall also prohibit the taking of animals belonging to such species.

The centre object of agreement under the convention shall be to restore the migratory species concerned to a favorable conservation status or to maintain it in such a status. Each agreement should also deal with aspects of the conservation and management of the migratory species concerned which provide to achieve that object.⁴⁹ Each agreement should cover up the entire of the variety of the migratory species concerned and should be open to accession by all the range States of that species, even they are Parties to this Convention or not. Each agreement should also identify the migratory species covered; describe the variation and migration route of the migratory species; establish appropriate method to aid in carrying out the aims of the agreement to supervise its effectiveness and to prepare reports.

The Range States of migratory species was listed in Appendix I and II and it shall be kept up to date by the Secretariat using information it has received from the various parties. The Parties shall keep the Secretariat to informed and update in regard to which of the migratory species listed in Appendix I and II they shall also

⁴⁷ *Supra* note 2, 545

⁴⁸ Article 3 of the Bonn Convention on Conservation of Migratory Birds, 1979

⁴⁹ *Ibid*, Article 5

consider themselves to be Range States, including provision of information on their flag vessels occupied outside national jurisdiction limits in taking the migratory species concerned and, where possible, future tactics in respect of such taking.⁵⁰

For the purposes of this Convention a Secretariat shall be established in concern parties. The functions of the Secretariat shall be:⁵¹ to maintain liaison with and aims to promote liaison between the Parties:

1. To the standing bodies set up under the Agreements and other international organizations concerned with related to migratory birds;
2. To acquire from any relevant source reports and other information which will further help in matter to aid the objectives and implementation of this Convention and to arrange for the appropriate dissemination of such information;
3. To bring the attention of the Conference of the Parties to any matter relating to be objectives of this Convention;
4. To prepare for the Conference of the Parties reports on the frame work of the Secretariat and on the implementation of this Convention;
5. To maintain and publish a list of Range States of all the migratory species incorporated in Appendix I and II;
6. To encourage, under the direction of the Conference of the Parties, the conclusion of Agreements;
7. To provide publication for the general public information concerning the convention and its objectives.

Such dispute which may be arise between two or more Parties with respect to the interpretation or application of the provisions of the Convention shall be subject to negotiation between the Parties occupied in the dispute. If the dispute can't be resolved by negotiation then the Parties may, by mutual consent, present the dispute to arbitration, in particular that of the Permanent Court of Arbitration at Hague and the Parties submitting the dispute shall be bound by the arbitral decision and subjected to be final.⁵²

⁵⁰ Article 6 of the Bonn Convention on Conservation of Migratory Birds, 1979

⁵¹ *Ibid*, Article 9

⁵² Article 13 of the Bonn Convention on Conservation of Migratory Birds, 1979

V. Convention on the Conservation of Antarctic Marine Living Resources, 1980

This Convention was signature at Canberra from 1st August to 31th December 1980 by the member States in the *Conference on the Conservation of Antarctic Marine Living Resources* held at Canberra from 7th to 20th May 1980. This Convention pertain to the Antarctic marine living resources of the southern region of 60 degree south latitude and to the Antarctic marine living resources of the region between that latitude and the Antarctic Convergence which form part of the Antarctic marine ecosystem. Antarctic marine living resources include the population of fin fish, mollusks, crustaceans and all other species of living organisms, including birds, found south of the Antarctic Convergence.⁵³

VI. World Charter for Nature, 1982

This Charter was adopted by the United Nation General Assembly. It comprise of 24 principles which are further divided into 3 categories i.e., General Principles, Functions and Implementation. This Charter recognize that humans are part of a nature and the civilization is embedded in nature, which has shaped human culture and influenced all artistic and scientific achievements, and living in harmony with nature provides human the best opportunities for the development of their creativity, and for rest and recreation. Therefore, man should obtain the knowledge to maintain and improve his ability to use nature in a manner to which present ecosystem and future generation get benefited. With this the charter has marked 24 principles to conserve the natural resources.⁵⁴

VII. Brundtland Commission Report, 1987

In 1987, the World Commission on Environment and Development (WCED), which had been set up in 1983, published a report entitled “Our common future”. The document came to be known as the “Brundtland Report” after the Commission's chairwoman, Gro Harlem Brundtland. It developed guiding principles for sustainable development as it is generally understood today⁵⁵.

The Brundtland Report stated that critical global environmental problems were primarily the result of the enormous poverty of the South and the non-

⁵³ Article 1 of the Convention on the Conservation of Antarctic Marine Living Resources, 1980

⁵⁴ S Bhatt, *International Environmental Law* 44 (APH Publishing Corporation, New Delhi, 1st edn., 2006).

⁵⁵ Available at- [www.https://www.are.admin.ch/are/en/home/sustainable-development/international-cooperation/2030agenda/un-_-milestones-in-sustainable-development.html](https://www.are.admin.ch/are/en/home/sustainable-development/international-cooperation/2030agenda/un-_-milestones-in-sustainable-development.html), last visited on Nov19, 2020

sustainable patterns of consumption and production in the North. It called for a strategy that united development and the environment - described by the now-common term “sustainable development”. Sustainable development is defined as follows: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” In 1989, the report was debated in the UN General Assembly, which decided to organize a UN Conference on Environment and Development.

3.2.3. THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT, 1992

The United Nations Conference on Environment and Development (UNCED), also known as the 'Earth Summit', was held in Rio de Janeiro, Brazil, from 3-14 June 1992. This global conference, held on the occasion of the 20th anniversary of the first Human Environment Conference in Stockholm, Sweden, in 1972, brought together political leaders, diplomats, scientists, representatives of the media and non-governmental organizations (NGOs) from 179 countries for a massive effort to focus on the impact of human socio-economic activities on the environment⁵⁶.

The above Summit' concluded that the concept of sustainable development was an attainable goal for all the people of the world, regardless of whether they were at the local, national, regional or international level. It also recognized that integrating and balancing economic, social and environmental concerns in meeting our needs is vital for sustaining human life on the planet and that such an integrated approach is possible.

In this Conference adopted twenty seven principles, protection for environment and sustainable development. Some of these principles are applying on biological diversity and access and benefits' sharing such as:

Principle 7- States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable

⁵⁶Available at- [www.https://www.un.org/en/conferences/environment/rio1992](https://www.un.org/en/conferences/environment/rio1992), last visited on Nov19, 2020

*development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.*⁵⁷

*Principle 9- States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.*⁵⁸

*Principle 22- Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.*⁵⁹

*Principle 23- The environment and natural resources of people under oppression, domination and occupation shall be protected.*⁶⁰

I. Convention on Biological Diversity (CBD), 1992

This Convention was adopted by balancing the ‘common heritage’ and ‘national sovereignty’ principles. The broad agenda envisioned under the Convention are sustainable use, fair and equitable sharing of benefits of genetic resources which in turn obligate the member states to swing into action for devising ABS model.⁶¹

The above Convention was negotiated under the auspices of *United Nations Environmental Programme* (UNEP). This Convention made in context of two major policy developments. Firstly, in the 1980’s the swift development of genetic engineering showed that biological resources which had been previously consider vague had an economic utility and constituted a latent source of revenue for any nation. Secondly, the 1980’s also witnessed the fast progress and maintaining of the

⁵⁷ Available at- [www.https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf](https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf), last visited on Nov19, 2020

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*

⁶¹ Md. Zafar Mahfooz Nomani, “Biological Diversity, IPR and Sustainable Development: A Critical Appraisal of Access and Benefit Models of U.S., Australia and India”, 40, International journal of environmental consumerism (IJEC)

impression of sustainable development. Therefore the increasing loss of biodiversity due to excessive exploitation led to the need of regulation of access to resources.⁶²

Thus, UNEP assemble the Ad Hoc Working Group of Experts on Biological Diversity in November of 1988 to investigate the need for an international convention on biological diversity. Soon In 1989, it established the Ad Hoc Working Group of Technical and Legal Experts to arrange an international legal mechanism for the sustainable use and conservation of biological diversity. The experts were to consider “the need to share costs & benefits between developed and developing countries” also “ways & means to support innovation by local people”. In February 1991, the Ad Hoc Working Group had recognized as the Inter-governmental Negotiating Committee. Its work culminated on 22 May 1992 with Nairobi Conference for the Adoption and Agreed text of the Convention on Biological Diversity. The Convention was signature on 5th June 1992 at “*Earth Summit, 1992*”. The Conventions come into force on 29th December 1993. It remained open for signature until 4th June 1993, by which time it received 168 signatures.⁶³

Silent feature of the Convention

The Silent feature of this convention includes several provisions for fulfilling their goal and further discuss such as:

Preamble- Preamble of the Convention clarifies subject value of biological diversity and their Components⁶⁴.

Objectives- Objectives of this convention are the conservation of biological diversity, the sustainable use of its components and the faire and equitable sharing of the benefits arising out of the utilization of genetic recourse⁶⁵.

Jurisdiction- Jurisdiction of this convention applying each contracting parties, limits of its national and beyond the limits of national jurisdiction⁶⁶.

Members- Each member of this convention after the signature accounted the contracting party of this convention and bearing liabilities imposed upon there⁶⁷.

⁶² *Supra note 2, 673-675*

⁶³ T. Eugene, *Environmental Economics*, 220 (Vrinda Publication (P) Ltd, Delhi, edn. 2007)

⁶⁴ Convention on Biological Diversity, 1992

⁶⁵ *Ibid.* Art. 1

⁶⁶ *Ibid.* Art. 4

⁶⁷ *Ibid.* Art. 5 - 14

Special provision made out for the developing countries members bearing liabilities imposed by the convention⁶⁸.

Access information and sharing technologies- Provision relating to Access, information and sharing technologies in this convention based upon the exchange pattern through special treaties and mutual agreements⁶⁹.

Secretariats- For the business of this convention provide setup of Secretariats. The Secretariats runs every business has empowered for achieve the goal of this Convention⁷⁰. The U N General Secretary as to be depository of this Convention⁷¹. The Secretariats collects reports regarding working progress of contracting party in respect to the Convention⁷².

Financial managements- For awareness, education, research and development measures relating to the conservation of biological diversity, the sustainable use of its components and the faire and equitable sharing of the benefits arising out of the utilization of genetic recourse by this Convention provide strong financial managements⁷³.

Redersal of disputes- This Convention provide mechanism for redersal of disputes through mode of Conciliation⁷⁴, Arbitration⁷⁵ and International Court⁷⁶.

Procedure of amendments- The Procedure of amendments is the ‘flexibility’ of this Convention amending to the provisions, if they are a raised difficulties in the future for operation this convention⁷⁷.

Rights to vote- Each Contracting party of this convention have the right to vote except which are not members of under the made protocol⁷⁸.

Languages of the convention- There are six official languages of the CBD, 1992. These are Arabic, Canines, English, French, Russian and Spanish⁷⁹.

The Convention is a genuine attempt on part of the world’s governments, at saving what is a global heritage. The Conventions establish objectives for the

⁶⁸ *Ibid.* Art. 12, 20 (7)

⁶⁹ *Ibid.* Art. 15-19

⁷⁰ *Ibid.* Art. 24, 25

⁷¹ *Ibid.* Art. 41

⁷² *Ibid.* Art. 26

⁷³ *Ibid.* Art. 20, 21, 39

⁷⁴ *Ibid.* Annex- II part- 2

⁷⁵ *Ibid.* Annex- II part- 1

⁷⁶ *Ibid.* Art. 27

⁷⁷ *Ibid.* Art. 29, 30

⁷⁸ *Ibid.* Art. 31

⁷⁹ *Ibid.* Art. 42

preservation of biological diversity comprehensively, reflecting the objectives of the World Conservation Strategy (1980). It was encouraged by the growing world community's commitment to sustainable development. It correspond to a step forward in the Conservation of Biological Diversity, the sustainable use of its machinery, and the fair and equitable sharing of benefits arising from the utilization of generic resources. In a paradigm shift from previous agreements, the CBD focus on more holistic approach to biodiversity, by recognizing its species, genetic levels and ecosystem. The three main objectives of Convention are-⁸⁰

- i. Global Conservation of Biodiversity.
- ii. Sustainable use of components of the Biological resources, and
- iii. The Fair and Equitable Sharing of Benefits arising from the Utilization of Genetic resources.

The Preamble to the Convention declared for the first time in International Law that the Conservation of the Biological Diversity (CBD) is a 'common concern of human kind' and recognized the vitality of Biological Diversity for evolution and for maintaining life sustaining systems of the biosphere, and re-affirmed that states have 'sovereign right over their natural resources' and they are solely 'responsible for conserving their biological diversity and for using their biological resources in a sustainable manner'. Moreover, the Preamble affirms that 'Biological Diversity is being drastically decreased by certain human activities'. Without specifically sanction the precautionary approach, the Preamble provides that measures should not be postponed or avoided where there is a deficient of complete scientific certainty and that biodiversity should be conserved and sustainable utilized for the benefit of the present and future generations. The Convention incorporates 21 principle of the Stockholm Declaration into the operational division of its text rather than simply the Preamble section.⁸¹

Several provisions are pertinent to the biodiversity conservation, including:

The Objectives of this Convention, to be follow in harmony with its relevant provisions, are the conservation of biological diversity, the sustainable use of its

⁸⁰ Art. 1 of the Convention on Biological Diversity, 1992

⁸¹ Sairam Bhat, *Natural Resource Conservation Law*, 249, (Sage Publication India Pvt, Ltd. New Delhi, 1st 2010)

mechanism and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by proper access to genetic resources and by suitable transfer of appropriate technologies, by taking into account of all the rights over those resources and to technologies, and by right funding.⁸²

*“Biological Diversity” refer to the variability among the living organisms from all sources including, terrestrial, inter alia, marine and other aquatic ecosystems and the ecological complexes of which they are essentially a part; this also consist of diversity between species, within species, and of ecosystems.*⁸³

“Biological Resources” comprise of organisms, genetic resources or portion thereof, populations, or any other biotic part of ecosystems with actual or potential use or value for humanity.

“Ecosystem” can be understand as dynamic complex of animal, plant and micro-organism communities and their non-living environment interacting as a one functional unit.

“Genetic material” refers to any material of animal, plant, microbial or other origin containing functional units of heredity.

“Genetic resources” means genetic material of actual or potential value.

“Ex-situ conservation” means the conservation of components of biological diversity outside their natural habitats.

“In-situ conservation” means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

“In-situ conditions” refer to environment where genetic resources exist within ecosystems and natural habitats, and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

⁸² Article 1of the Convention on Biological Diversity, 1992

⁸³ *Ibid*, Article 2

“Sustainable use” means the use of Components of Biological Diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

The Convention offers the general procedures for Sustainable use of Genetic resources and Conservation of Biodiversity. It provides that each Contracting Party shall, in accordance with its particular conditions and integrate, capabilities, as far as possible and as appropriate, the sustainable use and conservation of biological diversity into cross-sectoral plans or relevant sectoral, programmes and policies.⁸⁴

Under the CBD, all contracting parties should integrate into their national decision-making, conservation and sustainable use of Biological resources with minimum unfavorable impacts on biological diversity and protection and encouragement of customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements. Regional populations should be supported to develop and to employ required remedial action in degraded regional areas where biological diversity has been reduced.⁸⁵ Moreover the collaboration between governmental authorities and private sector in developing system for sustainable use of biological resources was found necessary for achieving the objectives of the convention.⁸⁶ Each Contracting Party shall, as much as possible and as suitable, adopt economically and socially sound methods that act as encouragement for the conservation and sustainable use of components of Biological diversity.

i. Impact Assessment and Minimizing Adverse Impacts:

Each and every Contracting Party, as far as possible and as suitable, shall introduce appropriate measures requiring environmental impact assessment of its proposed projects that are likely to have considerable negative effects on biological

⁸⁴ Article 6 of the Convention on Biological Diversity, 1992

⁸⁵ Article 10 of the Convention on Biological Diversity, 1992

⁸⁶ P. Leelakrishnan, *Environmental Law in India*, 154 (Lexis Nexis Butterworths Wadhwa, Delhi, 3rd2010)

diversity with a vision to shun or minimizing such effects and, where suitable, allow for public participation in such measures.⁸⁷

ii. Access to Genetic Resources and Fair and Equitable Sharing of Benefits:

The Access to genetic resources, fair and equitable sharing of benefits from the utilization of biological resources and traditional knowledge become an important scheme after the coming of Convention on Biological Diversity (CBD) in 1993. The preamble in CBD refers to ‘benefit sharing’ in the context of indigenous peoples. It specifically identify “the desirability of sharing equitably benefits arising for the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components”. The responsibility to share benefits arises when indigenous intellectual efforts are effectively accessed and employ in some way.⁸⁸ The preamble doesn’t demand any obligations but under Article 8 (j) which determines that parties should- preserve, maintain and respect the knowledge, innovations and practices of local and indigenous communities and represent way of traditional life-styles related to the conservation and sustainable use of biological diversity and to promote their wide application with the sanction and participation of the holders of such knowledge, innovations and practices and promote the equitable sharing of the benefits drive from the utilization of such knowledge, innovations and practices and encourage.⁸⁹

The negotiated of Biodiversity Convention took place at a time when the protection of traditional knowledge through intellectual property rights was not as significant a policy issue at international level as compare to today. But the implementation of Article 8(j) Working Group is mandated with the assignment of giving advice on legal matter and other means of protection of the knowledge, innovations and practices of local and indigenous communities representing traditional lifestyle pertinent to the conservation and sustainable use of biological diversity.⁹⁰

⁸⁷ Article 14 of the Convention on Biological Diversity, 1992

⁸⁸ *Ibid*, Article 8

⁸⁹ Manual Ruiz and Ronnie Vernooy, *The Custodians of Biodiversity, Sharing Access and Benefits to Genetic Resources* 11 (Earthscan. New Delhi, 2011)

⁹⁰ *Supra* note 1, 95

The Convention provides the principles and rules for the access to genetic resources and fair and equitable sharing of benefits.⁹¹ It acknowledged the sovereignty of the states over the natural resources, so, provides ability to states to regulate how, when, where and under what conditions genetic resources can be used and refers to mutually agreed terms and condition and prior informed consent (PIC), both expressly through contracts. Such agreements and contracts are between the provider state, individuals, ex-situ centers, communities and users of resources. The Convention acquires genetic resources out of the commons through a particular form of privatizing them under state protection. Article 15.7 expressly states that each of the contracting party shall take legislative as well as administrative or policy measures with the intend of sharing in a fair and equitable way the outcomes of research and development and the benefits arising from the commercial and other use of genetic resources with the other Contracting party providing such resources. Such sharing shall be upon mutually agreed terms only.⁹² Therefore the provisions of Article 15 are seen to permit possible claims being made on the financial profits or kind arising from the exploitation and development of such resources by companies based in developed country parties.

The levels of development of access to genetic resources and benefits sharing (ABS)⁹³ policies and laws of all the member countries of CBD are in different stages. There are constant debates on the requirement for institutional mechanisms to regulate the ABS agreements, defining the ownership of genetic resources and relevant traditional knowledge. In some developing countries the native communities have retained the traditional knowledge in managing their biological resources. In the international context this became more complex as communities look for to stress their rights over their traditional knowledge which can be utilized when accessed outside as base line knowledge for future innovations. Some arrangements in legal protection have been made to safeguard the community's rights over biological resources and associated Traditional Knowledge. However, it is not much clear on how local or native indigenous communities will benefits from

⁹¹ Article 15 of the Convention on Biological Diversity, 1992

⁹² Manual Ruiz and Ronnie Vernooy, *The Custodians of Biodiversity, Sharing Access and Benefits to Genetic Resources*, 12 (Earthscan , New Delhi:, 2011).

⁹³ Ajit Kumar Gond, "Review of Access to Genetic Resources & the Fair & Equitable Benefits Sharing from their Utilization in India", AV-journal of law: Vol- 4, July – September, 2017: ISSN:2348-5485

such bio prospecting.⁹⁴ For this reason, Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits arising out their Utilization were issued in 2002.⁹⁵

iii. Access to and Transfer of Technology:

Each Contracting Party, be familiar with that technology includes biotechnology, and that both the access to and transfer of technology among Contracting Parties, which are essential elements for the attainment of the objectives of this Convention. The access to and transfer of technology undertakes subject of the provisions of this Article to provide and/or facilitate access for and transfer to the Contracting Parties of technologies that are associate to the conservation and sustainable use of Biological diversity and/or make use of genetic resources and do not cause adverse damage to the environment. The provisions of the convention oblige that the parties to take measures to give those parties which provide genetic resources, predominantly to developing countries, access to technologies, including technologies protected by patents and other intellectual properties rights.⁹⁶

The Biodiversity Convention is attempts to outline the respective field of environmental law and intellectual properties treaties. It offer that member states, ‘recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to some national legislations and international law ensuring that such rights are supportive of and do not run counter to its objectives.’⁹⁷

iv. Technical and Scientific Cooperation:

This Convention set obligation on the part of Contracting Parties to endorse international technical and scientific cooperation in the ground of sustainable use and conservation of biological diversity through the suitable national and international institutions. Further It also compel the Parties to encourage cooperation in the personnel training and exchange of experts, joint ventures and

⁹⁴ Krishna Prasad Oli, “Access and benefit sharing from biological resources and associated traditional knowledge in the HKH region-protecting community interests”, *5 International Journal of Biodiversity and Conservation* 105 (2009) , Available at- <http://www.academicjournals.org>., last visited on Nov 19, 2020

⁹⁵ S.K. Tripathi, “Intellectual property and genetic resources, Traditional Knowledge and Folklore: International, Regional and National Perspective, Trends and Strategies”, Vol 8, *JIPR* 472 (2003)

⁹⁶ Article 16.3 of the Convention on Biological Diversity, 1992

⁹⁷ Article 16.5 of the Convention on Biological Diversity, 1992

joint research programmes for the development of technologies and to develop technique for the cooperation in harmony with their national legislations and policies.⁹⁸ Thus, this Convention grant for human resource development and institution building.

v. Handling of Biotechnology:

It is the first attempt by the international community to construct international rules on biotechnology at worldwide level. The Convention present that each party must provide for the effective contribution in biotechnological research activities by those parties which offer the genetic resources especially developing countries. Each of the party must take steps to promote and advance priority access, especially to developing countries, for the benefits arising from biotechnologies based upon genetic resources. Such access shall be on mutually agreed terms of those contracting parties.⁹⁹

The Convention doesn't contain complete rules on genetically modified organisms, including agreement on the secure transfer, handling and utility of any living modified organisms resulting from biotechnology that may have negative effects on the conservation and sustainable use of biological diversity.¹⁰⁰

vi. Financial Resources and Mechanism:

This Convention present the measures for the allocation of financial resources and establishes a financial mechanism to grant new and additional financial resources to facilitate developing countries parties to meet the incremental costs implementing the Convention.

v. Institutional and other Mechanisms:

The institutional established to supervise the implementation of the Convention includes the following:

- i. Conference of Parties (COP) to maintain the implementation of the Convention under regular review;
- ii. Subsidiary Body on Scientific, Technical and Technological Advise to recommend the Conference of Parties;

⁹⁸ *Ibid*, Article 18

⁹⁹ *Ibid*, Article 19

¹⁰⁰ R.A. Malviya, "Biological Diversity and International Environment Law with special reference to the Biological Diversity Convention" Vol. 31 *IJIL* 64 (2001)

- iii. Clearing-house Mechanism to help the sharing of information and capacity building.
- iv. Other subsidiary bodies to be established; &
- v. Secretariat.

Although the Biodiversity Convention places forth several obligations on the parties to contracting, most of these are encouraging; there are no precise standard or methodology to make sure compliance. The Biodiversity Convention as a whole is too broad and formless enough to be reliable with almost all natural resource policies, whether these policies are environmentally friendly or destructive, and many environmentalists have criticized the agreement for the loose-fitting and contradictory language. This convention has also been criticized for its lack of enforcement mechanisms. The Convention created an institution, the Committee on Sustainable Development (CSD), so as to supervise the compliance and implementation of the convention. The CSD has so far not able to establish accurate definitions of the vague and contradictory terms in the convention. Without this essential clarification of the idea or concept, it will be complicate to implement the Convention or handle the compliance of convention.¹⁰¹ The affiliation of the Convention with other international instruments, including CITES, as well as regional instruments remains unclear.

Even after the above limitations, member states have prearranged their work into thematic programs, which comprise agricultural biodiversity, forest biodiversity, dry and sub-humid the biodiversity, and of inland waters, marine and coastal biodiversity. They have also measured crosscutting the problems of innovations and practices, intellectual property rights, incentive measures and public education and awareness. Moreover, a clearing-house instrument has been established under the CBD to assist the sharing of information and capacity building.

¹⁰¹ Shyam Diwan and Armin Rosen cranzl, *Law and Policy in India : Cases, Materilas and Statutes* 599 (Oxford University Press, New Delhi, 2nd 2012)

3.2.4. POST UNITED NATIONS CONFERENCES ON ENVIRONMENT AND DEVELOPMENT EFFORTS

During the United Nations (UN) Conferences on Environment and Development, it was expected that the Rio process would bring about not only a convention conserving biodiversity but also conveying messages on desertification and forests. There are some important mechanisms developed after the proceeding of UNCED:¹⁰²

I. The Convention to Combat Desertification, 1994

Following by the recommendation made in Agenda 21, the UN General Assembly began the negotiations of a convention concerning predominantly on states facing serious droughts in African continent. In Paris on 17 June 1994 the Convention was concluded and adopted, with four annexes covering Africa, Latin America and the Caribbean, Asia and the Mediterranean. It came into force on December 26, 1996, where 193 country Parties to the Convention making it truly global in reach. Canada became the first country to withdraw from the convention in 2013. The Convention is one of the first and only global legally binding mechanisms to set up for addressing the problem of desertification and is based upon the principles of partnership, participation and decentralization for Good Governance and Sustainable Development.

The Conference of the Parties (COP) looks after the implementation of the Convention and is the apex decision-making body. The Convention has also set-up a Committee on Science and Technology (CST). Article 24 provides for the establishment of the CST as a subsidiary body of the COP. The CST accumulates analyses and reviews relevant data. It also supports the cooperation in the area of fighting desertification and to counter the effects of drought through suitable sub-regional, regional, national and international institutions; and in particular by its research and development activities, which contribute to further knowledge of the procedure leading to desertification and drought as well as their impact on the region.

¹⁰² Available at www.sustainabledevelopment.un.org, last visited on Nov 19, 2020

II. Protocols to the Convention of Biodiversity

The CBD put obligation on the parties to contract to cooperate in the formulation and implementation of protocol to the Convention. These following protocols are:

i. Cartagena Protocol on Bio-safety, 2000

The CBD specifically recognized the necessitate to develop more international regulation use of and the transfer of Living Modified Organisms (LMO's) which have adverse effect on the conservation and sustainable use of biodiversity,¹⁰³ Therefore, In 29 January 2000 the Cartagena Protocol on Bio-safety for the Convention on Biological Diversity was adopted as a supplementary agreement to the Convention on Biological Diversity and it came into force on 11 September 2003, which look for protection of biological diversity from the possible risks posed by living modified organisms resulting from number of modern biotechnology. This international treaty monitors the movements of living modified organisms (LMOs) consequential from modern biotechnology from one country to another country¹⁰⁴.

The notable facet of this Protocol is its explicitly precautionary approach under Article 1. The Advanced informed agreement (AIA) is the regulatory technique used procedure under Article 7. The prime objective of the Protocol is to smooth the progress of early assessment by each member or Contracting Party of the possible risks in accordance with the Protocol.¹⁰⁵ Further the Protocol also set up a "Biosafety Clearing-House" to aid the free flow of information on living modified organisms and to facilitate the countries in the implementation of the Protocol.

i. Nagoya Protocol on Access to Benefit Sharing, 2010

The Nagoya Protocol is an international agreement adopted by the members to the convention on biological diversity in its 10th meeting, on 29 October 2010, in Nagoya on Access to Genetic Resources and the Fair and Equitable sharing of benefits from their utilization.¹⁰⁶ Yet, the protocol has not come into force due to

¹⁰³ Cyrille de Klemm, *Biological Diversity Conservation and the Law: Legal Mechanisms for conserving Species and Ecosystems* 7-10 (IUCN Gland, Switzerland and Cambridge, UK 1993)

¹⁰⁴ Available at- <http://www.bch.cbd.in>, last visited on Nov 19, 2020

¹⁰⁵ *Supra note 2*, 545

¹⁰⁶ Available at-<https://en.wikipedia.org>., last visited on Nov 19, 2020

discrepancy among the developed and developing countries. The objective of Nagoya Protocol is almost the same as the third objective of the Convention on Biological Diversity¹⁰⁷. It chains the implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising from the use of genetic resources and traditional knowledge. It is applicable only to genetic resources and traditional knowledge related with genetic resources that are enclosed by CBD¹⁰⁸.

The Access and Benefit-sharing is a concept developed to provide platform for exchanging information on access and benefit-sharing as established by Article 14 of the Protocol. It's a part of the Clearing-House of the Convention established under Article 18, paragraph 3 of the Convention. The Clearing-House of ABS is a main tool for aiding the implementation of the Nagoya Protocol, by improving the legal certainty and transparency on measures for access and benefit-sharing, and for supervising the utilization of genetic resources through the internationally recognized certificate of fulfilment. By hosting related information in regarding to ABS, the Clearing-House of ABS will provide opportunities for involving users and providers of genetic resources and associated traditional knowledge.¹⁰⁹

The protocol also aims to establish clearer circumstances for access and benefit sharing and to form greater transparency in relationships between providers and users of genetic resources and traditional knowledge. Through, the complete implementation of the protocol relies on national access and benefit sharing laws and policies. This binding mechanism establishes the rules and principles which depend on prior informed consent (PIC) and terms agreed by provider and users. The protocol presents for respect for and protection traditional knowledge as a vital part of biodiversity. It intends for "bio-cultural protocols" and agreements, which will help to describe access and use of traditional knowledge by other non-indigenous parties for scientific research and commercially oriented research.

Facilitating Compliance with ABS Rules and Contracts:

As the third pillar of the worldwide ABS framework, Art.15, 16, 17 & 18 NP provide detailed rules for (user) countries to take effective measures:

¹⁰⁷ Daniel F Robinson, *Biodiversity Access and Benefit Sharing: Global Case Studies*, 25 (Routledge, New York 2014)

¹⁰⁸ Juliana Santilli, *Agro biodiversity and the law, Regulating genetic resources, food security and cultural diversity*, 148 (Earthscan, New Delhi., 1st edn., 2012).

¹⁰⁹ Available at- <https://www.cbd.in.>, last visited on Nov 19, 2020

- 1) that Genetic Resources (GRs) ‘utilized within its jurisdiction have been accessed in accord with prior informed consent (PIC) and that mutually agreed terms (MAT) have been established’, as requisite by ABS rules of provider countries;
- 2) that Tradition Knowledge (TK) associated with GRs is accessed based on PIC ‘or consent and participant’ of ILCs and that MAT have been established – but subject to the ‘domestic access and benefit-sharing legislation or regulatory requirements of the other such Party where such indigenous and local communities are residing’; and
- 3) That, for the private law disputes ‘arising from mutually agreed terms’, an ‘opportunity to seek recourse is available under their legal systems, consistent with applicable jurisdictional requirements’.¹¹⁰

ii. International Treaty on Plant Genetic Resources for Food and Agriculture, 2004

The International Treaty on Plant Genetic Resources for Food and Agriculture, also known as the International Seed Treaty, is a comprehensive international agreement in sync with Convention on Biological Diversity. The Treaty was approved in 31st session by *FAO Conference* in November and it came into being in 23 of December 2004.¹¹¹ The Treaty seek to guaranteeing food security through the conservation, exchange and sustainable utilization of the world’s plant genetic resources for food and agriculture; the fair and equitable benefit sharing occur from its use; free right to use to genetic resources, unrestricted by intellectual property rights; participation in related policy discussions and decision making; use, save, buying and exchange seeds, subject to laws of nation; acknowledging the past, present and future contributions of farmers in all region of the world, particularly to those of origin and diversity, in improving, conserving and making available. Each Party shall make sure of the conformity of its laws, regulation and procedures with its obligations as provided in the Treaty.¹¹²

Each Party to Contract subject to national legislation and in collaboration with other Contracting Parties shall ought to promote an integrated approach to the

¹¹⁰ Article 18(2) of the Nagoya Protocol, 2010

¹¹¹ Available at- <http://www.unece.org>, last visited on Nov 19, 2020

¹¹² Article 4 of the International Treaty on Plant Genetic Resources for Food and Agriculture, 2004

conservation, exploration and sustainable use of plant genetic resources for food and agriculture; promote the collection of plant genetic resources for food and agriculture and related associate information on those plant genetic resources that are under threat or of potential use; support or promote farmers and native communities efforts to deal with and conserve on farm their plant genetic resources for food and agriculture; promote *in situ* Conservation of wild plants and wild crop relatives for food production, counting in protected areas, by supporting local communities, monitor the preservation of the viability, genetic integrity and degree of variation of collections of plant genetic for food and agriculture.¹¹³ The Contracting Parties shall also develop and maintain suitable policy and legal measures that promote the sustainable utilization of plant genetic resources for food and agriculture. The sustainable use of plant genetic resources for food and agriculture may comprise of measures like following fair agricultural policies that promote the development and maintenance of diverse farming systems that improve the sustainable use of agricultural biological diversity and other natural resources; amplification the research which enhances and conserves biological diversity and other natural resources, broadening the genetic base of crops and increasing the range of genetic diversity available to farmers; by maximizing intra and inter specific variation for the profit of farmers; encourage plant breeding efforts which, particularly in developing countries strengthen the capacity to develop varieties particularly modified to social, economic and ecological conditions, including marginal regions; supporting the wider use of diversity of varieties and species in on-farm management, conservation and sustainable use of crops and creating links to plant breeding and agricultural development in order to reduce crop vulnerability and genetic erosion and promote increased world food production compatible with sustainable development.¹¹⁴ Each Contracting Party shall, as suitable, incorporate into its agriculture and rural development policies and programmes, activities referred to in Articles 5 and 6, and cooperate with other Contracting Parties, directly or through the FAO and other relevant international organizations, in the conservation and sustainable use of plant genetic resources for food and agriculture.

¹¹³ *Ibid*, Article 5

¹¹⁴ Article 6 of the International Treaty on Plant Genetic Resources for Food and Agriculture, 2004

iii. International Tropical Timber Agreement, 2006

This Agreement provide for an effective agenda for consultation, international cooperation and policy development amongst all the members with consideration to all relevant aspects of the world timber economy; providing a forum for discussion to promote non-discriminatory timber trade practices; further to contributing for sustainable development and to poverty alleviation; and improving the capacity of members to execute strategies for achieving exports of regional timber and timber based products from sustainably managed sources.¹¹⁵ The objectives of the International Tropical Timber Agreement, 2006 is mainly to promote the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests and to promote the sustainable management of tropical timber producing forests.¹¹⁶

iv. The World summit on Sustainable Development, 2002

After the one decade of the Rio conference the world summit on sustainable development was held at Johannesburg. The summit again call for affirmation on sustainable development as a key element of the agenda and gave new momentum to worldwide action to fight for poverty alleviation and protect environment. The plan of summit intended to set the world's environmental agenda for the next one decade and is expected to be a model for future international agreements. The plan of implementation aspire to building further achievements made by UNCED and make commitment to carry out actions and measures to implement Rio principles and Agenda 21 at all levels.

v. United Nations Conference on Sustainable Development 2012

The United Nations Conference on Sustainable Development (UNCESD), which is also known as Earth Summit, 2012, Rio 2012 or Rio+20 was the 3rd international conference on sustainable development which intended at reconciling the economic and environmental goals of the international community held at Rio de Janeiro, Brazil from 13 to 22 June 2012.

The Rio+20 Summit were following objectives:¹¹⁷

- i. To secure renewed political commitment to sustainable development;

¹¹⁵ Article 1 of the International Tropical Timber Agreement, 2006

¹¹⁶ Available at- <http://www.unece.org>, last visited on Nov 19, 2020

¹¹⁷ Earth Summit 2012, available at- <http://www.earthsummit2012.org/about-us/about-rio>, last visited on Nov 19, 2020

- ii. To assess progress towards internationally agreed goals on sustainable development; and
- iii. To address new and emerging challenges.

Rio+20 summit achievement advance in a number of areas:¹¹⁸

- i. It recognized that the inclusive of green economy is an imperative instrument towards the achievement of sustainable development.
- ii. Commitments were made for key policy areas. This comprise of food security, land, sustainable agriculture, water, sustainable energy, oceans and fisheries, and sustainable consumption and production.
- iii. Rio decided to develop Sustainable Development Goals (SDGs) which are to be universal goals, applicable to all countries, and to be developed alongside post 2015 development policy.
- iv. Means of Implementation and Financing for sustainable development.
- v. Reform of the International Institutional Framework (strengthening of UNEP, and working to the establishment of High level Political Forum on sustainable development).

In 27 February 2013 the Commission on Sustainable Development (CSD) adopted the Communication, “A Decent Life for All: Ending poverty and giving world a sustainable future”. The Communication suggests a common approach to the take notes to Rio+20, and the Sustainable Development Goals, and the review of the Millennium Development Goals. It also suggests to work towards an overarching frame to address the issues post 2015. The need for actions towards an inclusive green economy was also underlines by the Communication.

vi. 11th Conference of Parties to the Convention on Biodiversity Diversity, 2012

In pursuant to decision X/46, the United Nation’s 11th meeting at Hyderabad, India, from 8-19 October 2012, of the Conference of the Parties (COP 11) to the Convention on Biological Diversity. The operation theme at the meeting was the complex task of mobilizing financial resources for achieving the biodiversity targets expeditiously¹¹⁹.

33 decisions were adopted by COP 11 on a range of administrative, budgetary, financial, strategic and substantive issues. Further it include other issues

¹¹⁸Rio+20: United Nations Conference on Sustainable Development, available at-
<http://www.ec.europa.eu.in.>, last visited on Nov 19, 2020

¹¹⁹ K. Venkateshwarlu, “COP-11 calls for funds to achieve targets, Hyderabad : The Hindu, 9th October, 2012.

related to the resources and benefit-sharing, progress towards the Aichi biodiversity targets, implementation of the Strategic Plan 2011-2020 and the implementation of the Strategy for Resource Mobilization. The meetings also throw light on issues related to financial resources and its mechanism, administrative and budgetary matters, cooperation, and the UN Decade on Biodiversity and operations of the Convention. Moreover meeting also addressed the ecosystem conservation, preservation and restoration, traditional knowledge, marine and coastal biodiversity, and taken the issues of biodiversity and climate change and numerous ecosystem-related issues and other cross-cutting issues¹²⁰.

3. 3 INTERNATIONAL BIODIVERSITY DECADE (1994-2004)

In spite the development of number of International and Regional Conventions and mechanism the United Nations (UN) has also taken many other initiatives for conservation and protection of biodiversity. The period of 1994 to 2004 was designated as International Biodiversity Decade' by U.N. General Assembly with the following objectives:¹²¹

- To reform existing public policies that invite the waste or misuse of biodiversity;
- To adopt new policies and accounting methods that promote conservation and the equitable use of biodiversity;
- To reduce demand for biological resources;
- To integrate biodiversity conservation into international economic policy;
- To strengthen the international legal framework for the conservation to complement the international legal framework for the conservation to complement the convention on biological diversity;
- To make the development assistance process a force for biodiversity conservation;
- To increase funding for biodiversity conservation and develop innovative decentralized and accountable ways to raise funds and spend them effectively;

¹²⁰Summary of the Eleventh Conference of the Parties to the Convention on Biological Diversity, Earth Negotiations Bulletin, vol. 09, 2012.

¹²¹ S. Ramaswamy and G. Sathis Kumar, Enery, *Environment and Sustainable Development Issues and Policies*, 151-152 (Regal Publications, New Delhi, 2009).

- To correct imbalances in the control of land and resources that cause biodiversity loss and develop new resources management partnerships between governments and local communities;
- To ensure that who possess local knowledge related to genetic resources benefit appropriately when it used;
- To create international conditions for biological conservation and development;
- To Support biological conservation initiatives in the private sector;
- To incorporate biodiversity conservation into the management of biological resources; identify national and international priorities for strengthening protected and their contribution to biodiversity;
- To strengthen capacity to conserve species, populations and genetic diversity in natural habitats;
- To strengthen the capacity of the off-site conservation facilities to conserve biodiversity, educate the public and contribute to sustainable development;
- To increase appreciation and awareness of biodiversity's values and importance;
- To help institutions disseminate the information needed to conserve biodiversity and mobilize its benefits;
- To promote basic and applied research on biodiversity conservation; and
- To develop human resources capacity for biodiversity conservation.

United Nations Decade on Biodiversity: 2011-2020

The General Assembly declared the period 2011-2020 as United Nations Decade on Biodiversity to promote the implementation of a strategic plan on biodiversity and its overall vision of living in harmony with nature. The main goal is to mainstream biodiversity at different levels. Throughout the Decade, governments are encouraged to develop, implement and communicate the results of national strategies for implementation of the Strategic Plan for Biodiversity. The decision was made through the General Assembly resolution A/RES/65/161 and the Decade

was launched on the International Day for Biological Diversity 2011. It is being implemented by the Secretariat of the Convention on Biological Diversity¹²².

Sustainable Development Goals:

On 19 July 2014, the UN General Assembly's Open Working Group on Sustainable Development Goals, officially known as “**Transforming our world: the 2030 Agenda for Sustainable Development**” set a proposal for the SDGs to the Assembly. The proposal contained as many as 17 goals addition with 169 targets covering a wide range of international sustainable development issues. The Resolution of this proposal became broad inter-governmental agreement that serve as the Post 2015 Development Agenda that is successor to the “Millennium Development Goals”.

The UN General Assembly accepted the Report of Secretary-General's Synthesis on 5 December 2014, which comprise the protection, restoration and promotion of sustainable use of terrestrial ecosystems, combat desertification, sustainably manage forests and to halt and reverse land degradation and halt biodiversity loss as a 15th Goal of agenda in addition to 16 other important issues. And the objectives of 15th goal are as follows:¹²³

1. By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world;
2. By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development;
3. By 2020, ensure the conservation, restoration and sustainable use of freshwater (terrestrial and inland) ecosystems and their services, in particular forests, wetlands, mountains & drylands, under obligations of international agreements;
4. By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally;

¹²² Available at- <http://www.unesco.org/new/en/natural-sciences/special-themes/biodiversity/international-day-for-biological-diversity/united-nations-decade-on-biodiversity/>, last visited on Nov 19.2020

¹²³ Available at-<https://sustainabledevelopment.un.org.>, last visited on Nov 19.2020

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5. By 2020, protect and prevent the extinction of threatened species and take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and their habitation;
6. Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products;
7. By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species;
8. By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts;
9. To Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed;
10. Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems;
11. Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation;
12. Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.

Certain weakness of Convention on Biological Diversity may be put a under:

- (i) It is a poor reflection of customary law and treaty developments concerning transboundary environmental effects;
- (ii) It is weaker than other contemporary environmental treaties in omitting explicit reference to the precautionary principle, in the limited supervisory role of the conference of the parties, and in its decision making structure;

(iii) Its central obligations of conservation and sustainable use are weak, potentially contradictory and may prove difficult to operate in practice. Moreover the heavily qualified wording of the Convention's Central articles, including the frequent use of the words "as far as possible" and "appropriate" leaves open to question how far the parties are in reality committed to anything;

(iv) Its driving force is as much the allocation of economic benefits to the developing world and reorientation of the World economy as it is a concern with the conservation and sustainable use. It remains to be seen whether the transfer of technology provisions and funding mechanism will be of real help given the poor record of other treaties with comparable objectives, such as United Nation Convention on the Law of the Sea. Overall therefore the omens are uncertain, but much will depend on who eventually ratifies and on what then happens in practice to a Convention whose implementation and elaboration will be considerable challenge for many states and for conference of the parties.¹²⁴

3.4 CONCLUSION

In the light of above mentioned facts and legal instruments of international as well as national level we observed that despite of weakness it is to be noted that CBD and its entry into force on 29 Dec. 1993 marks an important new development in the protection of natural environment. Previous conservations convention had mainly been concerned with the protection of migratory animals and their habitat, and with the suppression of international trade in endangered species.

However it is to be noted that adoption of regulations and the application of the innovatory techniques will not in themselves conserve biodiversity. International obligations need to be implemented and enforced locally, regionally and globally, through the joint efforts of the citizens governments and international organization.

At the global level, if the pace of biodiversity loss is to be illustrate, a combined and uniform procedural, policy and project approach would be needed for procedural action, that include giving extra weight to biodiversity in the

¹²⁴ C. Redgwell and M. Bowman, *International Law and Conservation of Biological Diversity* 6-7 (London: Kluwer Law Internaitonal, 1996)

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programmers design, project and appraisal. Policy actions would require proper governmental interference in various sectors through procedures and reforms to encourage ecologically cautious behaviour. For immediate and targeted actions on priority sites the project approach could require. Besides this essentially there is a need for willpower, commitment and rigorous efforts from every country of the world to implement the provisions of the International Conventions and other associate instrument strictly.



CHAPTER-IV

*INTELLECTUAL PROPERTY
RIGHTS REGIME AND
ACCESS BENEFIT SHARING*



INTELLECTUAL PROPERTY RIGHTS REGIME AND ACCESS BENEFIT SHARING

4.1 INTRODUCTION

The biotechnology industry has strongly argued for the introduction of intellectual property rights over genetically modified organism, seeds and animals.¹This is the subject matter of patenting rights under the patent law, for the commercialization use of genetic resources.

Intellectual property protection in areas such as genetic engineering is often associated with genetic resources used in the protected product or process or the knowledge incorporated in the product or process. This has led to the development of increasingly complex and controversial legal frameworks concerning the rules that should govern access to genetic resources and related knowledge².

Access and benefit sharing clearly illustrates the close links between intellectual property protection and sustainable development. Access regimes have developed in earnest as a result of the increased value ascribed to genetic resources and traditional knowledge in the era of genetic engineering³.

The basic provisions of the Biodiversity Convention have been further elaborated in the context of the non-binding Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation⁴.

The International Treaty on Plant Genetic Resources for Food and Agriculture, 2001 under the UN Food and Agriculture Organization in 2001 and the ITPGRFA focuses specifically on ABS issues related to plant genetic resources for food and agriculture. Significant amount of time and energy is spent on assessing the

¹ Philippe Cullet and Jawahr Raja, "Intellectual Property Rights and Biodiversity Managements: The Case of India" ,97 *IELRC's* (2004)

² Philippe Cullet, "*Intellectual Property Protection and Sustainable Developments*,"154(LexisNexis Butterworths, New Dehli, 2005)

³ *Ibid.*

⁴ *Supra note 3*, at 159.

ABS provisions under the ITPGRFA and meanwhile, discussions under the Food and Agricultural Organization's *Commission on Genetic Resources for Food and Agriculture*, focused on recognizing the contribution of farmers and farming families across the world to conservation of plant genetic resources for food and agriculture. The discussions focused on the ways and means to recognize the contributions of farmers through the concept of farmers' rights.⁵ The NP and how the provisions can be implemented at International and National levels.⁶ CBD provides countries to control access to its sovereign resources subject to individual ABS agreements while the ITPGRFA supports International Pooling and Sharing of Resources for Agricultural Research and food security through a multilateral system of exchange.⁷ These two systems of provision of Access and Sharing of Benefits are therefore different, making synergistic implementation of the Nagoya Protocol and International Treaty challenge at national level. Countries that are parties to both the Convention and treaty are therefore in need to find operational options to implement ABS provisions at National level to honour the commitments on assigning ITPGRFA under the Treaty Multilateral System while considering issues of sovereign rights over their genetic resources.

This chapter provides an overview of Intellectual property Rights regime and Access Benefit Sharing in India and identify the challenges of implementing to the its related conventions and laws at national level and provides a quick assessment of experience from India on the challenges of implementing the two ABS systems. India is a party to both NP and the ITPGRFA.

4.2 TRADE-RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS (TRIPS) AGREEMENT AND ACCESS BENEFIT SHARING

The **World Trade Organization** must adhere; the Agreement on Trade-related Aspects of Intellectual Property Rights has had a major impact on the scope of intellectual property protection around the world. The TRIPS Agreement establishes minimum standards of IP protection, which must be incorporated through national

⁵ Farmers' Rights, FAO Res. 5/89, U.N. FAO, 25th Sess. (Nov. 29, 1989).

⁶ Jorge Cabrera Medaglia, et al., the interface between Nagoya protocol on ABS and the ITPGRFA at the international level: potential issues for consideration in supporting mutually supportive implementation at the national level (2013)

⁷ Michael Halewood et al., "Implementing 'Mutually Supportive' Access and Benefit Sharing Mechanisms Under the Plant Treaty, Convention on Biological Diversity and Nagoya Protocol", 9 *Law, Env't. & Dev. J.* 68 (2013)

legislation by WTO Members unless specifically exempted by the WTO as in the case of the Least Developed Countries (LDCs). Such standards are established for a variety of IP instruments including patents, copyrights, trademarks, geographical indications, industrial designs, plant variety protection, integrated circuit designs and undisclosed information. The treaty body for the TRIPS Agreement is the Council made under the same, which is an intergovernmental body serviced by the WTO Secretariat in Geneva, Switzerland.⁸

The above Agreement of section 5 concerned to patents provision such as-
Article 27 Patentable Subject Matter

1. Subject to the provisions of paragraphs 2 and 3, 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. Subject to paragraph 4 of Article 65, paragraph 8 of Article 70 and paragraph 3 of this Article, patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.

2. Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect ordre public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.

3. Members may also exclude from patentability:

(a) Diagnostic, therapeutic and surgical methods for the treatment of humans or animals;

(b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement⁹.

⁸ Available at- <https://unctad.org>, last visited on Nov 12, 2020

⁹ Available at- https://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm#5, last visited on Nov 12, 2020

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The TRIPS requires that patents may only be granted to inventions that are new, involve an inventive step and are capable of industrial application.¹⁰ Under this Agreement, patents are a public authorization that grants to the owner the right to preclude others from the acts of making, using, offering for sale, selling or importing a protected product or process for at least 20 years.¹¹ WTO Members may define the respective criteria of novelty, inventive step and industrial application in light of their policy priorities and needs, but may not offer patent protection for less than 20 years. Various exceptions to this right are recognized both in the TRIPS Agreement as well as through WTO Dispute Settlement decisions and widely recognized national judicial and administrative practices. Petty patents are not governed by the TRIPS Agreement. Plant variety protection is not governed directly by the TRIPS Agreement. Among its many functions, the TRIPS Council periodically reviews certain substantive provisions of the TRIPS Agreement.

The interface between the TRIPS Agreement and the CBD was first examined by the TRIPS Council in its 1999 review,¹² which allows governments to exclude some kinds of inventions from patenting, i.e. plants, animals and “essentially” biological processes. It was at this time that developing countries argued for the need to re-examine the implications of allowing the so-called ‘patenting of life’, including examining the impact of patenting genes, viruses and other living organisms. In undertaking this work, the TRIPS Council shall be guided by the objectives and principles¹³ and shall take fully into account the development dimension”.¹⁴ The WTO’s work on TRIPS has thus generally focused on the question of whether or not there is a conflict between the two treaties, and whether an amendment of the TRIPS Agreement is necessary to ensure that these treaties are implemented in a ‘mutually supportive’ manner.¹⁵

Under this Agreement requests Member States to require patent applicants to disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.¹⁶ While this debate had been framed as a CBD issue, neither the CBD nor the Nagoya Protocol requires mandatory disclosure

¹⁰ Article 27.1 of Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement, 1995

¹¹ *Ibid*, Article 28.1

¹² *Ibid*, Article 27.3(b)

¹³ *Ibid*, Articles 7 and 8

¹⁴ Para. 19 of Doha Ministerial Declaration of 20 November 2001

¹⁵ Para. 6 of WTO Document IP/C/W/368/Rev.1 of 8 February 2006

¹⁶ Article 29 of the TRIPS Agreement

of origin. To the extent that the Nagoya Protocol requires effective checkpoints to ensure implementation, however, a disclosure of origin or source requirement could potentially be considered as a mechanism to assist national competent authorities should IP offices be designated as a checkpoint.

The technologies that have arisen in research and development of genetic resources some in place for more than two decades highlight, more than ever before, the limitations of frameworks on access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation, particularly with regard to fairness and equity in sharing of monetary benefits. The principles of sovereignty, prior informed consent, and mutually agreed terms, as enshrined in the Convention on Biological Diversity, are being challenged as to their appropriateness in responding to an increasingly, but not wholly new, disruptive technological paradigm. With information extracted, disembodied, or dematerialised from genetic resources, questions arise regarding the relevance of biological material in relation to and as the vehicle for that disembodied information. The importance of biological materials may vary from sector to sector.¹⁷

A number of developing countries had either weak intellectual property protection or none in some fields; the adoption of the TRIPS¹⁸ Agreement has made a significant contribution to the strengthening of intellectual property rights frameworks in most developing countries. The rapid development of genetic engineering has led to a number of sweeping changes in the intellectual property rights paradigm, in particular with the rapid extension of protection of life forms.¹⁹

Under this intellectual property rights regime access benefit sharing argues that there is evidence to suggest the need for a shift in the narrative on, and policy options for, access benefit sharing that is adapted to a changing landscape. As a result, a new global regime for access benefit sharing may be required, particularly to support realisation of the fair and equitable sharing of benefits.

¹⁷ Manuel Ruiz Muller, "Access to Genetic Resources and Benefit Sharing 25 Years on: Progress and Challenge" 44 *ICTSD VII* (2018)

¹⁸ Hiroko Yamane, "*Interoperating TRIPS Globalisation of intellectual property rights and Access to medicines*" 2 (Hart Publishing Ltd., North America, 2011)

¹⁹ Philippe Cullet, *Intellectual Property Protection and Sustainable Development* 1 (Lexis Nexis, Butterworths, New Delhi, 1st edn., 2005)

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International trade in genetic resources today involves high economic stakes and has attracted strong interest from industry groups and traders. The issue therefore has a bearing not only on the providers of such resources, but also on modern industry, which relies on access to biological or, more specifically, genetic resources. Relevant industry sectors include pharmaceuticals, botanical medicines, horticulture and crop protection. Estimating the full value of trade in genetic resources in monetary terms is difficult if not impossible. Nevertheless, as a rough estimate, a 1999 study evaluated the global market at US\$300 billion a year for the pharmaceutical sector using genetic resources, while the market for the horticultural industry was estimated at US\$20 billion.²⁰ Due to the considerable financial stakes involved, there have been substantial discussions and deliberations on the issue of access to genetic resources and associated traditional knowledge and the sharing of benefits derived from their use in different contexts and fore, including the Convention on Biological Diversity, the World Intellectual Property Organization, the World Trade Organization and the Food and Agriculture Organisation.

Discussions have also taken place at regional and local levels. These debates have highlighted that effective access to resources and sharing of benefits can have an impact on numerous policy areas, including biological diversity, food security, environmental sustainability, agricultural productivity, business ethics, human rights, international trade, public health, scientific research, sustainable development and wealth distribution.

ABS Negotiations under the CBD Fair and equitable sharing of benefits arising from the use of genetic resources is one of the three primary objectives of the CBD, in addition to the conservation of biological diversity and sustainable use of its components, each being linked to and deriving strength from the other. The principles underlying these goals are those of equity and balance. They link traditional conservation efforts to the economic goal of sustainable use of biological resources. The CBD recognises national sovereignty over all genetic resources. It is important to note that it is the first international treaty to link access to genetic resources to the equitable sharing of benefits related to those resources.²¹ Out of the three goals,

²⁰ K.K. Ten and S.Laird, *Commerical Use of Biodiversity*, 340 (London: Earthscan, 1999)

²¹ C.L. Diaz, "Intellectual Property Rights and Biological Resources: An overview of key Issues and Current Debates", Wuppertal Institute for Climate, Environment and Energy, No: 151 (2005)

developing countries place special emphasis on the objective of benefit-sharing, as they hold the lion's share of global biological resources.²² The CBD proposes a mechanism for access to valuable biological resources on fair grounds, that is, on 'mutually agreed terms' and subject to the 'prior informed consent' of the country of origin. When a micro-organism, plant or animal is used for a commercial application, the providers of these resources have the right to benefit. The benefits may be monetary or non-monetary, such as the transfer of biotechnology equipment and know-how.

4.3 THE INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE, 2001

This treaty is the specific instrument at international level in respect to use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use²³. Some relevant provisions to IPRs and access benefits sharing under such as-

In this treaty Article 1 described the objectives, which are given below-

Article 1 - Objectives

*1.1 The objectives of this Treaty are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security.*²⁴

1.2 These objectives will be attained by closely linking this Treaty to the Food and Agriculture Organization of the United Nations and to the Convention on Biological Diversity.

In this treaty Article 6 described the Sustainable Use of Plant Genetic Resources, which are given below-

Article 6 - Sustainable Use of Plant Genetic Resources

²² Available at: <https://www.files.ethz.ch/isn/46542/COP6>, Visited on Nov 15,2020

²³ Available at: http://planta-res.politicheagricole.it/docs_pdf/Treaty_english., Visited on Nov 15,2020

²⁴ Art. 1 of The International Treaty on Plant Genetic Resources for Food and Agriculture, 2001

6.1 *The Contracting Parties shall develop and maintain appropriate policy and legal measures that promote the sustainable use of plant genetic resources for food and agriculture.*

6.2 *The sustainable use of plant genetic resources for food and agriculture may include such measures as:*

a) *Pursuing fair agricultural policies that promote, as appropriate, the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;*

b) *Strengthening research which enhances and conserves biological diversity by maximizing intra- and inter-specific variation for the benefit of farmers, especially those who generate and use their own varieties and apply ecological principles in maintaining soil fertility and in combating diseases, weeds and pests;*

c) *Promoting, as appropriate, plant breeding efforts which, with the participation of farmers, particularly in developing countries, strengthen the capacity to develop varieties particularly adapted to social, economic and ecological conditions, including in marginal areas;*

d) *Broadening the genetic base of crops and increasing the range of genetic diversity available to farmers;*

e) *Promoting, as appropriate, the expanded use of local and locally adapted crops, varieties and underutilized species;*

f) *Supporting, as appropriate, the wider use of diversity of varieties and species in on farm management, conservation and sustainable use of crops and creating strong links to plant breeding and agricultural development in order to reduce crop vulnerability and genetic erosion, and promote increased world food production compatible with sustainable development; and*

g) *Reviewing, and, as appropriate, adjusting breeding strategies and regulations concerning variety release and seed distribution.*²⁵

In this treaty Article 13 described the Benefit-sharing in the Multilateral System, which are given below-

Article 13 - Benefit-sharing in the Multilateral System

²⁵ *Ibid*, Art. 6

13.1 The Contracting Parties recognize that facilitated access to plant genetic resources for food and agriculture which are included in the Multilateral System constitutes itself a major benefit of the Multilateral System and agree that benefits accruing there from shall be shared fairly and equitably in accordance with the provisions of this Article.²⁶

13.2 The Contracting Parties agree that benefits arising from the use, including commercial, of plant genetic resources for food and agriculture under the Multilateral System shall be shared fairly and equitably through the following mechanisms: the exchange of information, access to and transfer of technology, capacity-building, and the sharing of the benefits arising from commercialization, taking into account the priority activity areas in the rolling Global Plan of Action, under the guidance of the Governing Body:

a) Exchange of information: The Contracting Parties agree to make available information which shall, inter alia, encompass catalogues and inventories, information on technologies, results of technical, scientific and socio-economic research, including characterization, evaluation and utilization, regarding those plant genetic resources for food and agriculture under the Multilateral System. Such information shall be made available, where non-confidential, subject to applicable law and in accordance with national capabilities. Such information shall be made available to all Contracting Parties to this Treaty through the information system, provided for in Article 17.²⁷

b) Access to and transfer of technology

i) The Contracting Parties undertake to provide and/or facilitate access to technologies for the conservation, characterization, evaluation and use of plant genetic resources for food and agriculture which are under the Multilateral System. Recognizing that some technologies can only be transferred through genetic material, the Contracting Parties shall provide and/or facilitate access to such technologies and genetic material which is under the Multilateral System and to improved varieties and genetic material developed through the use of plant genetic resources for food and agriculture

²⁶ *Ibid*, Art. 13

²⁷ *Ibid*, Art. 13.2

*under the Multilateral System, in conformity with the provisions of Article 12. Access to these technologies, improved varieties and genetic material shall be provided and/or facilitated, while respecting applicable property rights and access laws, and in accordance with national capabilities.*²⁸

*ii) access to and transfer of technology to countries, especially to developing countries and countries with economies in transition, shall be carried out through a set of measures, such as the establishment and maintenance of, and participation in, crop-based thematic groups on utilization of plant genetic resources for food and agriculture, all types of partnership in research and development and in commercial joint ventures relating to the material received, human resource development, and effective access to research facilities.*²⁹

*iii) access to and transfer of technology as referred to in (i) and (ii) above, including that protected **by intellectual property rights, to developing countries that are Contracting Parties**, in particular least developed countries, and countries with economies in transition, shall be provided and/or facilitated under fair and most favourable terms, in particular in the case of technologies for use in conservation as well as technologies for the benefit of farmers in developing countries, especially in least developed countries, and countries with economies in transition, including on concessional and preferential terms where mutually agreed, inter alia, through partnerships in research and development under the Multilateral System. Such access and transfer shall be provided on terms which recognize and are consistent with **the adequate and effective protection of intellectual property rights.***³⁰

c) Capacity-building Taking into account the needs of developing countries and countries with economies in transition, as expressed through the priority they accord to building capacity in plant genetic resources for food and agriculture in their plans and programmes, when in place, in respect of those plant genetic resources for food and agriculture covered by the Multilateral System, the Contracting Parties agree to give priority to (i) establishing

²⁸ *Ibid*, Art. 13.2.b (i)

²⁹ *Ibid*, Art. 13.2.b (ii)

³⁰ *Ibid*, Art. 13.2.b (iii)

and/or strengthening programmes for scientific and technical education and training in conservation and sustainable use of plant genetic resources for food and agriculture, (ii) developing and strengthening facilities for conservation and sustainable use of plant genetic resources for food and agriculture, in particular in developing countries, and countries with economies in transition, and (iii) carrying out scientific research preferably, and where possible, in developing countries and countries with economies in transition, in cooperation with institutions of such countries, and developing capacity for such research in fields where they are needed.

d) Sharing of monetary and other benefits of commercialization³¹

i) The Contracting Parties agree, under the Multilateral System, to take measures in order to achieve commercial benefit-sharing, through the involvement of the private and public sectors in activities identified under this Article, through partnerships and collaboration, including with the private sector in developing countries and countries with economies in transition, in research and technology development;

*ii) The Contracting Parties agree that the standard Material Transfer Agreement referred to in Article 12.4 shall include a requirement that a recipient who commercializes a product that is a plant genetic resource for food and agriculture and that incorporates material accessed from the Multilateral System, shall pay to the mechanism referred to in Article 19.3f, an equitable share of the benefits arising from the commercialization of that product, except whenever **such a product is available without restriction to others for further research and breeding**, in which case the recipient who commercializes shall be encouraged to make such payment. The Governing Body shall, at its first meeting, determine the level, form and manner of the payment, in line with commercial practice. The Governing Body may decide to establish different levels of payment for various categories of recipients who commercialize such products; it may also decide on the need to exempt from such payments small farmers in developing countries and in countries with economies in transition. The Governing Body may, from time to time, review the levels of payment with a view to achieving fair and equitable sharing of*

³¹ *Ibid*, Art. 13.2.d

benefits, and it may also assess, within a period of five years from the entry into force of this Treaty, whether the mandatory payment requirement in the MTA shall apply also in cases where such commercialized products are available without restriction to others for further research and breeding.

13.3 The Contracting Parties agree that benefits arising from the use of plant genetic resources for food and agriculture that are shared under the Multilateral System should flow primarily, directly and indirectly, to farmers in all countries, especially in developing countries, and countries with economies in transition, who conserve and sustainably utilize plant genetic resources for food and agriculture³².

13.4 The Governing Body shall, at its first meeting, consider relevant policy and criteria for specific assistance under the agreed funding strategy established under Article 18 for the conservation of plant genetic resources for food and agriculture in developing countries, and countries with economies in transition whose contribution to the diversity of plant genetic resources for food and agriculture in the Multilateral System is significant and/or which have special needs

13.5 The Contracting Parties recognize that the ability to fully implement the Global Plan of Action, in particular of developing countries and countries with economies in transition, will depend largely upon the effective implementation of this Article and of the funding strategy as provided in Article 18.

13.6 The Contracting Parties shall consider modalities of a strategy of voluntary benefit-sharing contributions whereby Food Processing Industries that benefit from plant genetic resources for food and agriculture shall contribute to the Multilateral System.³³

In this treaty Article 17 described the Global Information System on Plant Genetic Resources for Food and Agriculture, which are given below-

Article 17 - The Global Information System on Plant Genetic Resources for Food and Agriculture

³² *Ibid*, Art. 13.3

³³ *Ibid*, Art. 13.6

17.1 The Contracting Parties shall cooperate to develop and strengthen a global information system to facilitate the exchange of information, based on existing information systems, on scientific, technical and environmental matters related to plant genetic resources for food and agriculture, with the expectation that such exchange of information will contribute to the sharing of benefits by making information on plant genetic resources for food and agriculture available to all Contracting Parties. In developing the Global Information System, cooperation will be sought with the Clearing House Mechanism of the Convention on Biological Diversity.³⁴

17.2 Based on notification by the Contracting Parties, early warning should be provided about hazards that threaten the efficient maintenance of plant genetic resources for food and agriculture, with a view to safeguarding the material.

17.3 The Contracting Parties shall cooperate with the Commission on Genetic Resources for Food and Agriculture of the FAO in its periodic reassessment of the state of the world's plant genetic resources for food and agriculture in order to facilitate the updating of the rolling Global Plan of Action referred to in Article 14.

4.4 NAGOYA PROTOCOL, 2010

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 was adopted at the tenth meeting of the Conference of the Parties on 29 October 2010, in Nagoya, Japan.

The above Protocol significantly advances the Convention's third objective by providing a strong basis for greater legal certainty and transparency for both providers and users of genetic resources. The Protocol's provisions on access to traditional knowledge held by indigenous and local communities when it is associated with genetic resources will strengthen the ability of these communities to benefit from the use of their knowledge, innovations and practices³⁵.

³⁴ *Ibid*, Art. 17.1

³⁵ Available at: <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.>, Visited on Nov 15, 2020

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These are the some relevant and important provisions the above protocol for access benefits sharing, to protect traditional knowledge³⁶ of indigenous and local communities such as-

In this protocol Article 1 described the objectives, which are given below-

Article 1 objective

*The objective of this Protocol is the fair and equitable sharing of the benefits arising from the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding, thereby contributing to the conservation of biological diversity and the sustainable use of its components.*³⁷

In this protocol Article 3 described the Scope of Article 15 of the Convention 1992, which are given below-

Article 3 Scope

*This Protocol shall apply to genetic resources within the scope of Article 15 of the Convention and to the benefits arising from the utilization of such resources. This Protocol shall also apply to traditional knowledge associated with genetic resources within the scope of the Convention and to the benefits arising from the utilization of such knowledge*³⁸.

In this protocol Article 5 described specific provision of fair and equitable benefit-sharing, which are given below-

*Article 5 fair and equitable benefit-sharing*³⁹

1. In accordance with Article 15, paragraphs 3 and 7 of the Convention, benefits arising from the utilization of genetic resources as well as subsequent applications and commercialization shall be shared in a fair and equitable way with the Party providing such resources that is the country of origin of such resources or a Party that has acquired the genetic resources in

³⁶ Teshanger W. Dagne, “Intellectual Property and Traditional knowledge in the global Economy” 15(Routledge, New York, 2015)

³⁷ Art. 1 of The Nagoya Protocol, 2010

³⁸ *Ibid*, Art. 3

³⁹ *Ibid*, Art. 5

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accordance with the Convention. Such sharing shall be upon mutually agreed terms.

2. Each Party shall take legislative, administrative or policy measures, as appropriate, with the aim of ensuring that benefits arising from the utilization of genetic resources that are held by indigenous and local communities, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over these genetic resources, are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms.

3. To implement paragraph 1 above, each Party shall take legislative, administrative or policy measures, as appropriate.

4. Benefits may include monetary and non-monetary benefits, including but not limited to those listed in the Annex.

5. Each Party shall take legislative, administrative or policy measures, as appropriate, in order that the benefits arising from the utilization of traditional knowledge associated with genetic resources are shared in a fair and equitable way with indigenous and local communities holding such knowledge. Such sharing shall be upon mutually agreed terms.

In this protocol Article 6 described provisions of Access to Genetic Resources, which are given below-

Article 6 Access to Genetic Resources

1. In the exercise of sovereign rights over natural resources, and subject to domestic access and benefit-sharing legislation or regulatory requirements, access to genetic resources for their utilization shall be subject to the prior informed consent of the Party providing such resources that is the country of origin of such resources or a Party that has acquired the genetic resources in accordance with the Convention, unless otherwise determined by that Party.⁴⁰

2. In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that the prior informed consent or approval and involvement of indigenous and local communities is obtained for access to genetic resources where they have the established right to grant access to such resources.

⁴⁰ *Ibid*, Art. 6

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3. Pursuant to paragraph 1 above, each Party requiring prior informed consent shall take the necessary legislative, administrative or policy measures, as appropriate, to:
- (a) Provide for legal certainty, clarity and transparency of their domestic access and benefit-sharing legislation or regulatory requirements;
 - (b) Provide for fair and non-arbitrary rules and procedures on accessing genetic resources;
 - (c) Provide information on how to apply for prior informed consent;
 - (d) Provide for a clear and transparent written decision by a competent national authority, in a cost-effective manner and within a reasonable period of time;
 - (e) Provide for the issuance at the time of access of a permit or its equivalent as evidence of the decision to grant prior informed consent and of the establishment of mutually agreed terms, and notify the Access and Benefit sharing Clearing-House accordingly;
 - (f) Where applicable, and subject to domestic legislation, set out criteria and/or processes for obtaining prior informed consent or approval and involvement of indigenous and local communities for access to genetic resources; and
 - (g) Establish clear rules and procedures for requiring and establishing mutually agreed terms. Such terms shall be set out in writing and may include, *inter alia*:
 - (i) A dispute settlement clause;
 - (ii) Terms on benefit-sharing, including in relation to intellectual property rights;
 - (iii) Terms on subsequent third-party use, if any; and
 - (iv) Terms on changes of intent, where applicable.

In this protocol Article 7 described provisions of Access to Traditional Knowledge Associated with Genetic Resources, which are given below-

Article 7 Access to Traditional Knowledge Associated with Genetic Resources
In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources that is held by indigenous and local communities is

*accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established.*⁴¹

In this protocol Article 8 described provisions of special considerations to access and benefit-sharing legislation or regulatory requirements, which are given below-

Article 8 Special Considerations

In the development and implementation of its access and benefit-sharing legislation or regulatory requirements, each Party shall: (a) Create conditions to promote and encourage research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries, including through simplified measures on access for non-commercial research purposes, taking into account the need to address a change of intent for such research;

(b) Pay due regard to cases of present or imminent emergencies that threaten or damage human, animal or plant health, as determined nationally or internationally. Parties may take into consideration the need for expeditious access to genetic resources and expeditious fair and equitable sharing of benefits arising out of the use of such genetic resources, including access to affordable treatments by those in need, especially in developing countries;

*(c) Consider the importance of genetic resources for food and agriculture and their special role for food security.*⁴²

In this protocol Article 12 described provisions of Traditional Knowledge⁴³ Associated with Genetic Resources and domestic law take into consideration indigenous and local communities, which are given below-

Article 12 Traditional Knowledge Associated with Genetic Resources

*1. In implementing their obligations under this Protocol, Parties shall in accordance with domestic law take into consideration indigenous and local communities' customary laws, community protocols and procedures, as applicable, with respect to traditional knowledge associated with genetic resources,*⁴⁴

⁴¹ *Ibid*, Art. 7

⁴² *Ibid*, Art. 8

⁴³ Phundan Singh, "IPR & Plant Breeders' Rights" 178(New Vishal Publications, New Dehli, 2009)

⁴⁴ *Supra note* 42, art. 12

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2. Parties, with the effective participation of the indigenous and local communities concerned, shall establish mechanisms to inform potential users of traditional knowledge associated with genetic resources about their obligations, including measures as made available through the Access and Benefit-sharing Clearing-House for access to and fair and equitable sharing of benefits arising from the utilization of such knowledge,

3. Parties shall endeavour to support, as appropriate, the development by indigenous and local communities, including women within these communities, of:

(a) Community protocols in relation to access to traditional knowledge associated with genetic resources and the fair and equitable sharing of benefits arising out of the utilization of such knowledge;

(b) Minimum requirements for mutually agreed terms to secure the fair and equitable sharing of benefits arising from the utilization of traditional knowledge associated with genetic resources; and

(c) Model contractual clauses for benefit-sharing arising from the utilization of traditional knowledge associated with genetic resources.

4. Parties, in their implementation of this Protocol, shall, as far as possible, not restrict the customary use and exchange of genetic resources and associated traditional knowledge within and amongst indigenous and local communities in accordance with the objectives of the Convention.

In this protocol Article 15 described provisions of compliance with Domestic Legislation or Regulatory Requirements on Access and Benefit-Sharing, which are given below-

Article 15 Compliance with Domestic Legislation or Regulatory Requirements on Access and Benefit-Sharing⁴⁵

1. Each Party shall take appropriate, effective and proportionate legislative, administrative or policy measures to provide that genetic resources utilized within its jurisdiction have been accessed in accordance with prior informed consent and that mutually agreed terms have been established, as required by the domestic access and benefit-sharing legislation or regulatory requirements of the other Party.

⁴⁵ *Ibid*, Art. 15

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2. Parties shall take appropriate, effective and proportionate measures to address situations of non-compliance with measures adopted in accordance with paragraph 1 above.

3. Parties shall, as far as possible and as appropriate, cooperate in cases of alleged violation of domestic access and benefit-sharing legislation or regulatory requirements referred to in paragraph 1 above.

In this protocol Article 16 described provisions of compliance with domestic legislation or regulatory requirements on access and benefit sharing for traditional knowledge associated with genetic resources, which are given below-

Article 16

Compliance with Domestic Legislation or Regulatory Requirements on Access and Benefit sharing for Traditional Knowledge Associated with Genetic Resources⁴⁶

1. Each Party shall take appropriate, effective and proportionate legislative, administrative or policy measures, as appropriate, to provide that traditional knowledge associated with genetic resources utilized within their jurisdiction has been accessed in accordance with prior informed consent or approval and involvement of indigenous and local communities and that mutually agreed terms have been established, as required by domestic access and benefit-sharing legislation or regulatory requirements of the other Party where such indigenous and local communities are located.

2. Each Party shall take appropriate, effective and proportionate measures to address situations of non-compliance with measures adopted in accordance with paragraph 1 above.

3. Parties shall, as far as possible and as appropriate, cooperate in cases of alleged violation of domestic access and benefit-sharing legislation or regulatory requirements referred to in paragraph 1 above.

Spirit of the above described provisions of the protocol such as, Specific obligations to support compliance with domestic legislation or regulatory requirements of the Party providing genetic resources and contractual obligations reflected in mutually agreed terms are a significant innovation of the Protocol. These compliance provisions as well as provisions establishing more predictable conditions

⁴⁶ *Ibid*, Art. 16

for access to genetic resources will contribute to ensuring the sharing of benefits when genetic resources leave a Party providing genetic resources.

4.5 CONCLUSION

On the above mention facts and discussions, we find that the issues in Intellectual property Rights regime and Access Benefit Sharing in India. The Trade Related Aspects of Intellectual Property Rights is an international agreement entered into by all the nation members of the WTO, which lays down minimum standard and the legal framework to be followed in order to recognize and protect intellectual property. Different forms of intellectual property are protected under various intellectual property rights. This is particularly relevant under the access and benefit sharing regime as the use of different genetic resources result in the creation of products and processes which require further protection against unauthorized use and misappropriation by others. Biological and genetic resources as material are absolutely essential for life on the Earth.

The problem rests in the implementation of the CBD's objective third, which intersect with the intellectual property regime. Parties to the Convention must endeavour to ensure that the protection of mostly private intellectual property rights does not run counter to and is supportive of the objectives of the Convention, which confers and protects public rights. IPR-related issues are covered in various provisions of the Convention:

- The only explicit reference which recognises that patent and other IPRs may have an influence on the implementation of the Convention. It directly links access to genetic resources and IPRs by stipulating that developing country providers of genetic resources should have access to and transfer of IPR protected technology that uses those resources.
- IPRs are also relevant in the context of knowledge, innovations and practices of indigenous and local communities. Some of the most critical controversies relate to the Agreement on Trade-related Aspects of Intellectual Property Rights and IPRs in general have arisen from debates falling within this issue area.

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- It calls on Parties to adopt economically and socially sound measures that act as incentives for conservation and sustainable use. This provision constitutes the very core of the relationship between IPRs and genetic resources, raising the question whether IPRs act as a positive or negative incentive for the conservation of genetic resources.

Even when it is possible early on to identify such products and processes, it is often important to consider its value and whether the value it brings outweighs the cost in securing it as an intellectual property. It is undeniable that securing intellectual property rights over it can in itself add to the value and revenue.

This can be in the form of subsequent licensing and selling such intellectual property products and processes created out of such genetic resources, especially for further commercial use. Even, if the same is used for merely academic, research and development purposes, it may still be desired to be protected by the intellectual property regime. Depending on their respective perspectives and interests, there may be differences in what a provider and user seek to be protected.

Access and benefit sharing as viewed through the more focused lens suggested in this chapter are only marginally relevant to these aspects. Other spaces within the CBD process and other forums may be better suited to serve TK in a more effective way. MAT and PIC are still relevant in the context of non-monetary benefits, where institutions and collaborations have a long-standing practice of concluding agreements, memorandums of understanding, contracts, and so on to define the terms of technology transfer, co-authorship, and so many other forms of non-monetary benefits. But their usefulness as enablers of fairness and equity in the case of monetary benefit sharing is absolutely limited. Compelling economic reasons exist as to why contracts are intrinsically unfair and inequitable in the context of widely dispersed, shared, and diffused DSI and natural information. But other reasons also exist and may be more subtle. In a curious kind of way, the higher the transaction costs, the greater the need for lawyers to “disentangle” complexities that could be solved through based on appropriate incentives and conceptual approaches such as bounded openness. More tellingly, if extensive manuals and guides, and expensive legal expertise, are required to negotiate ABS contracts and navigate administrative and regulatory procedures, then this is not a good sign for an efficient and win ABS regime for all.

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A reductionist approach is needed for ABS to construct a policy and regulatory action that addresses the real subject matter of interest to biotechnology and all related technologies: the informational component in genetic resources. If this can be accepted, then solutions for ABS can almost naturally fall into place. Accepting that information is the key subject matter in ABS will mean reconsidering prior assumptions, principles, and norms concerning the CBD and the Nagoya Protocol. Sovereignty, PIC, and MAT may become less useful in the context at least in the context of monetary benefit sharing. Incorporating bio-businesses, Bio-Trade, and any other similar category in the ABS discussions often distracts attention and unnecessarily complicates issues. Likewise, including TK in ABS discussions becomes a distraction. Such forms of use of biodiversity and its components, as well as TK, are critically important and essential to the biodiversity debate; however, they belong to a separate discussion that involves analysis of value chains, fair trade, certification, management plans, environmental assessments, and intellectual property and, in the case of TK, reference to developments in cultural protection frameworks, collective rights, IP, and land and territorial rights, among others.

Initiatives under the Convention for resolving the ABS and IP issues In order to facilitate better implementation of the Convention obligations with respect to access and benefit sharing, Parties have undertaken several activities. Decision IV/8 of the Conference of the Parties established a regionally balanced panel of experts on ABS with representation from diverse interest groups. The first meeting was held in 1999. At Conference of Parties- 6, it was decided to establish an Ad Hoc Open ended Working Group with the mandate to develop guidelines and other approaches for submission to the COP-6. One of the important outcomes of COP-6 was decision VI/24, which established the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation. The Bonn Guidelines are a way to operationalise the CBD provisions with respect to ABS. These Guidelines are voluntary and indicate detailed procedures at the national level to facilitate access to genetic resources based on 'prior informed consent' of the country of origin, as well as mutually agreed term.

The Guidelines assist in establishing and developing national ABS regimes while promoting capacity-building, transfer of technology and the provision of

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financial resources. They also seek to promote sustainable use of genetic resources by promising to improve users' access to valuable genetic resources in return for sharing the benefits with the countries of origin and with local and indigenous communities.

The COP has also taken a number of decisions on IP issues. Decision III/17 on intellectual property rights called for case studies to be developed on the impacts of IPRs on achieving the CBD's objectives, including the relationship between IPRs and traditional knowledge relevant for the conservation and sustainable use of biological diversity. The Decision called for further work to develop a common appreciation of the relationship between IPRs, the TRIPS Agreement and the CBD. This last point was reiterated in COP Decision IV/15.

The Bonn Guidelines also contain a section on the role of intellectual property rights in the implementation of ABS arrangements. The section suggests that Parties and other governments encourage the disclosure of the country of origin of genetic resources and traditional knowledge in intellectual property rights applications in order to help track compliance with requirements relating to Prior Inform Consent and Mutually Agreed Terms. It further calls for the origin of relevant traditional knowledge, innovations and practices to be disclosed in IPR applications.

A heavily bracketed draft international regime on access and benefit sharing was put forward. Options for the kind of instrument, scope and objectives were listed, and discussions continued on the legal nature of the regime. Biodiversity rich countries argue that it should be legally binding, while most of the user countries consider that it should be a set of non-binding guidelines.

The Working Group called on stakeholders to prepare further studies on the design of such an international certificate, examining, inter alia, the rationale, objectives, desirable characteristics, practicality and feasibility, and has asked the COP to decide whether to establish an expert group on the issue.

Such measures could require the disclosure of origin/source/legal provenance of the genetic resource and associated traditional knowledge. The Working Group invited the Parties to consider the introduction of such a requirement in their national IP legislations and to conduct studies in this area and to transmit the information to WIPO and other relevant fora.

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The Working Group urged all members and relevant stakeholders to further evaluate the need and possible options for such indicators.

All these measures directly or indirectly have an impact on the debates related to IP and ABS, including on the relationship between the CBD and the TRIPS Agreement.

ABS at the WTO The relation between the objectives of and obligations under the CBD and the TRIPS Agreement has been the subject of contentious debate in the WTO. These discussions have been primarily focused on the possible need for amending the TRIPS Agreement so that it helps support the objectives of the CBD.

The International Treaty for Plant Genetic Resources for Food and Agriculture, adopted in 2001, entered into force in 2004 and aims at the conservation and sustainable use of plant genetic resources for food and agriculture, the fair and equitable sharing of benefits arising out of their use, and sustainable agriculture and food security. At the heart of the Treaty is a ‘multilateral system’ that seeks to facilitate access to a negotiated list of plant genetic resources, annexed to the treaty, as well as fair and equitable benefit-sharing. Genetic resources included in the MLS are to be circulated freely and that no one can claim any intellectual property or other rights that limit the facilitated access to the plant genetic resources for food and agriculture, or their genetic parts and components. Such access is to be provided through a standard material transfer agreement which is still under development. Another issue that is relevant to IPR discussions relates to the treaty’s benefit-sharing arrangement which provides for monetary contributions derived from the commercialisation of products developed. The payment is mandatory when the commercialisation of the product restricts the product’s availability for use in further research and breeding, and voluntary when the product is freely available for such purposes. While the treaty does not explicitly discriminate between IPR holders who are by definition conferred exclusive rights under the TRIPS Agreement and others, it does so in practice due to the different rules for products available for further research and breeding and those that are not. Depending on how governments incorporate the provisions of this treaty into their IPR regulations, the possibility might arise that they could be challenged on the basis that in doing so, they contravene their TRIPS obligations by imposing additional conditions for IPR protection. From these

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discussions, it is obvious that some of the problems that are likely to arise with the implementation of this Treaty coincide with those under other agreements, such as the CBD and the TRIPS Agreement.

It great impetus has been given to protect the interest, rights, culture, language education, traditions and institutions of indigenous communities under The UN Declaration of Rights of Indigenous People (hereinafter referred as UNDRIP). It empowers indigenous people to protect, preserve and bolster their identity, knowledge, cultures and traditions and to put forth their needs and requirements. It strengthens the existing mandate for countries to support and work in cooperation with indigenous and local communities in order to resolve various global issues. The mandate under the UNDRIP is complimentary to the Nagoya Protocol and both the instruments look out for the rights and interest of the indigenous people and their TK.

Therefore, adequate discussion and resolution are not only crucial to ensure effective access and benefit-sharing, but also increasingly relevant to the intellectual property and development agenda being pursued by developing countries and institutions in diverse international flora, and WIPO in particular.



CHAPTER-V

*ACCESS BENEFIT SHARING
UNDER INDIAN LAW AND
POLICY*



CHAPTER- V

ACCESS BENEFIT SHARING UNDER INDIAN LAW AND POLICY

5.1 INTRODUCTION

“The principles of sustainable development, and the precautionary principle. It needs to be highlighted that the Convention on Biological Diversity has been acceded to by our country and, therefore, it has to implement the same.”

Biodiversity conservation is necessary for the sustainable utilisation of biological resources. The access and benefits sharing of biological resources need to be control and protect by law. After one decade, the Convention on Biological Diversity, 1992 the Indian parliament has passed an Act to protect and control of Biodiversity known as The Biological Diversity Act, 2002. The Millennium Ecosystem Assessment documented the importance of biodiversity and Ecosystem Services for human well-being and projected that continued supply of these services is threatened by unsustainable human activities which includes overexploitation.¹The long term conservation of biodiversity can be achieved only through the approach used by the ‘Institute National de Biodiversity’ means ‘save it’, ‘characterise it’, and ‘sustainably use it’.² The biological resources of earth are indispensable to social, economic and cultural development of any country. The global assets in form of biological resources are recognized as supreme value for present and future generations.

The Convention on Biological Diversity, 1992³ which focuses not only on reducing loss of biodiversity across the global but also on the genetic value of such biodiversity as well the advancement in biotechnology that their exploitation might result in.⁴ Our country is having very long history of conservation and sustainable use of the natural resources, but due to the transferred agriculture farming (shifting

¹ Shova Devi and Manchikanti Padmavati, “Biodiversity Monitoring: A Pre-Condition to Access and Benefit Sharing under the Indian Biological Diversity Act, 2002” 21 Journal of Intellectual Property Rights 288 (2016)

² T. S. Krishnan, *Biodiversity and Environment*, 17(Swastik Publishers and Distributors, Delhi, 1st edn., 2008)

³ Aruna Venkat, *Environmental Law and Policy*, 27 (PHI Learning Private Limited, New Delhi, Edition, 2011)

⁴ Arjya B. Majumdar, Debosmita Nandy, et.al., *Environment and Wildlife Laws in India*, 117(Lexis Nexis Publication Haryana, 1st edn., 2013)

cultivation), industrial and development activities in couple of centuries by people, the number of species came at alarming rate which posed severe threats to biological resources of the country. That too exploitation of the environmental resources are of uncontrolled in nature which resulted into inequality in the access to the natural resources particularly between the advanced and under developed countries. To check the unequal exploitation of the natural resources necessitate the strong mechanism for the equal access benefit sharing.

Our country is a very ancient civilization, a well-developed with all aspects of knowledge of art and science and much well recorded history. The earth has often been described in our ancients 'scriptures as the form of mother who nourishes and sustains the all living beings including human. The concept of conservation of biodiversity is a very old as it is referred in *Vedas* which clearly states that the earth is our mother and we are all her children.⁵ Just alike mother brought up her children carefully and lovingly, so does the mother earth do and it is our obligation to admire all that were receive from her and return it back with love and care.⁶

The Conservation of biodiversity and natural resources are deeply rooted in the culture and religion in India. The motto of the social life has been deliver as "to live in harmony with nature" because the society was having consciousness of the unfavourable environmental effects due to deforestation and extinction of living species. The sages and saints love the nature and used to live in forests. In many part of India the conservation and protection of nature and natural resources is emotionally involved with the divine origin itself.

India is predominantly on account of its natural diversity in its topography having the biodiversity and genetic resource richness like, biogeography, bioclimatic conditions, phyto-geographical and zoogeographical entities, socio-economic profile, culture, ethnic community and biodiversity-based indigenous traditional knowledge. India is renowned for its richness in biodiversity and associated traditional knowledge.

This chapter presents an analysis of the contemporary issues in India concerning Access and Benefit Sharing. Further it provides the degree of initiative

⁵R.L. Java and AsheemSrivastav, *Biodiversity Conservation Strategies for the 21st Century*, in P.C. Kotwal and Sujoy Banerjee (eds.), *Biodiversity Conservation in Managed Forests and Protected Areas*, (Agrobios India, Jodhpur, Reprint, 2009)

⁶Arvind Jasrotia, *The Value of Nature: A Holistic Perception* 19-35(Inter-disciplinary Press, Oxford, New Delhi, 2009)

and measure taken up by the nation and also reveals the gap areas which call for immediate attention. To make sure that the responsibility of profit sharing must also be shared to provider by the user and to facilitate the environment and confidence through the legislative measures. Moreover, the chapter is going to discussed, what is the position of conservation and sustainable use of natural resources in ancient times as well as in pre and post-independence and their legislation too.

The era of Post-independence witnessed a bunch of changes in the policies and attitudes of Governments in respect to the Conservation of Biodiversity. In early days of independence no instantaneous policy framework could be observed. But with the initiation of planning process with the successive plan period's concern for the Conservation of Biodiversity become visible. The last three decades of the century witnessed drastic change in biodiversity conservation by the Government of India. The Legislature, the Executive and the Judiciary all three tier of government played crucial roles in moulding and shaping the policy guidelines aiming at conservation of biodiversity. Since the inception the Government was trying their best to conserve biodiversity. After the Indian Constitution came into force, Planning Commission was set up to strategically frame the Five Year Plans and these plan periods play an essential role in shaping the various objectives of the government in biodiversity conservation.

5.2 PROVISIONS RELATING TO BIODIVERSITY CONSERVATION UNDER CONSTITUTION OF INDIA, 1950

Right to an adequate environment is an inherent human rights and this has been recognised in the Indian Constitution⁷. Our Constitution contains detailed provisions for the environmental protection. The directive principles are not only show pieces for the window dressing. They are essentials in the governance of country and being part of the Supreme law of the territory, have to be implemented⁸.

The Directive Principles of the State Policy⁹ and the Fundamental Duties¹⁰ explicitly oblige the duties on the state as well as citizens respectively to protect and preserve the environment. Further, it also articulates the national commitment towards

⁷ Tim Hayward, *Constitutional Environmental Rights* 25(Oxford University Press, New York, 2005)

⁸Durga Das Basu, V.R. Manohar, *Introduction to the Constitution of India* 98, (Lexis Nexis Butterworths Wadhwa, Nagpur, 2008)

⁹ Part IV of the Constitution of India Act, 1950

¹⁰ *Ibid.*

the protection and improvement of environment.¹¹ Such constitutional protection of environment has given more thrust to protect the biodiversity on planet.

Even though the expression 'environment' had not been specifically mentioned in the Constitution, however there are many provision and items in the legislative lists that empowered the Centre and State to make necessary law in the field of environment. After four years of Stockholm Conference¹² the environmental protection and improvement was clearly incorporated into the Constitution by the Constitution (Forty-Second Amendment) Act of 1976. The policy prescriptions that guide the government were added to the Directive Principles of State Policy.¹³ It declares that, "*The State shall endeavour to protect and improve the environment and to safeguard the forests protect and to improve the natural prosperity of the country i.e. wildlife and forests. Likewise, a new chapter titled 'Fundamental Duties' compel similar responsibility on each and every citizen "to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures".*¹⁴ Thus, this provides the directive to the State for the protection and improvement of environment. Moreover, the citizens have a constitutional duty and responsibility to protect and improve their natural environment. The Article 48-A is of very significance today in quest to protect the natural environment.

In the Concurrent List, the Amendment placed the item '*Forest*'¹⁵ by because the subject of the forest originally belong to the State List,¹⁶ this resulted into non-consistent policy by the State for protecting the forests. The Parliament has obtained law making power by introduction it in the Concurrent List, along with the State. By the virtue of this Parliament also have power to implement a uniform policy on forest management e.g. such as The Forest Conservation Act, 1980. Further the inclusion under schedule '*for protection of wild animals and birds*' in the Concurrent List has also sanction the Parliament to pass a necessary law for the protection of biodiversity.¹⁷

¹¹ ShyamDiwan& Armin Rosencranz, *Environmental Law and Policy in India: Cases, Materials and Statutes*, 41 (Oxford University Press, New Delhi, 2ndedn., 2012)

¹² C.M. Jariwala, *Environment and Justice, i*, (A P H Publishing Corporation, New Delhi, Edition, 2004)

¹³ Article 48A of the Constitution of India Act, 1950

¹⁴ *Ibid*, Article 51A-g

¹⁵ *Ibid*, Entry 17-A

¹⁶ *Ibid*, Entry 19

¹⁷ *Ibid*, Entry 17-B

Further, the Constitution incorporated the 11th Schedule to the Constitution.¹⁸ The Schedule allocate the functions of water management, drinking water, soil conservation, social and farm forestry, fuel, and fodder, etc. to the gram panchayat with a vision to environment management. And the 12th Schedule to the Constitution¹⁹, which provided for the Urban Local bodies, with the purpose of promotion of ecological aspects and protection of environment.²⁰

Fundamental Rights in the Constitution doesn't have any direct bearing on ecological balance or biodiversity degradation, but the judicial assertion have considerably contributed in giving newer and finer perspective to biodiversity conservation. In Indian Constitution, it guarantees right to life and personal liberty, which also comprise right to enjoy the nature and natural resources beauty.²¹

It guarantees all citizens the right to practice any occupation, and profession or to carry trade or business. But this right cannot be consider as an absolute right and subject to certain rational restrictions in the public interests which may comprise the protection of biodiversity from the hazards of any trade or business.²²

The Schedule was a landmark step for conservation of biodiversity, because the subject of forests was originally of State list as entry 19 which resulted into no uniform policy by the State to protect the forests. The placing of the subject forest at present in the Concurrent list by the Entry 17-A, along the State, Parliament has gain a law making power. Likewise, the insertion of the entry 17-B in the Concurrent List has sanction the Parliament to pass a law with a view to the protection of wildlife in addition to already existing legislation in the form of Wildlife Protection Act 1972 .

Our Country has also devise National Action Plan for the protection of wild animals and birds. By the Constitution 74th Amendment Act, 1992 Entry 8 was placed which provided for the Urban Local bodies, with the objectives for the function and promotion of ecological aspects to them.²³ In the Concurrent List, 42nd Amendment inserted Entries 17-A, 17-B, which provides for the forests, for the protection of wild animals and birds.²⁴ Correspondingly List I (Union List) Entries provide for entering agreements with foreign countries and implementing of

¹⁸ Added by 73rd the Constitution (Amendment) Act, 1992

¹⁹ Added 74th the Constitution (Amendment) Act, 1992

²⁰ Available at: http://www.vanashakti.in/constitutional_provisions.html, last visited on Nov 21, 2020

²¹ Article 21 of the Constitution of India Act, 1950

²² *Ibid*, Article 19(1) (g)

²³ Twelfth Schedule of the Constitution of India, 1950

²⁴ *Ibid*, Seventh Schedule

agreements, treaties and conventions with foreign countries; List II (State List) comprise the provisions for agriculture protection against pest and prevention of plant diseases; protection, preservation and improvement of stock and prevention of animal diseases; fishing and fisheries within and beyond the territorial waters. The List III Entries (Concurrent List) concern with the subjects pertained to the prevention of cruelty to animals, prevention of the expansion from one State to another of infecting or pests affecting men, animals and plants.

5.3 LAWS RELATING TO CONSERVATION OF BIODIVERSITY

During the period of Colonial era, the revenue orientation of colonial policy worked mainly towards the devastation of forests in India. The Forests were regarded as 'an obstacle for the agriculture and therefore a bar to the prosperity of the British Empire'. But the initial attempt to have a split the department to deal with Environmental issues was also made during the British period. The Imperial Forest Department was established in 1864, with the help of Germany, the expert from the country was at that time the leading European in Forest Management.²⁵

The first endeavour at claiming state monopoly was through the Indian Forest Act of 1865 which laid the establishment of the British policy in the direction of forests in India. The British Policy which was a straight result of reduce forests in other areas under the control of British Empire, was confining accesses of people to the forest resources. The Act of 1865 was substitute by more comprehensive legislation i.e. Act of 1878 in which by one stroke of the executive pen attempted to eradicate centuries of customary use by Indian population. It classified the three classes of forests i.e., reserved forest, protected forest and village forests; out of this three the first two were under control of the state.²⁶

The concept of earmarking certain portions of the forests for the protection of wildlife habitats was for the first time by the Indian Forests Act, 1927, although the motive behind the legislation was to ensure exclusive use of forest wealth by the government. In all these Indian legislation either enacted pre or post-independence there is no clearly provisions in respect of access benefit sharing but all this

²⁵RamchandraGuha, "*Forestry in British and Post-British India: A Historical Analysis*" 18 *EPW* 1884 (1983) available at:<http://www.jstor.org>., last visited on Nov 21, 2020

²⁶NandanNelivigi, "Biodiversity, Wildlife and Protected Area Management in India: A People Centred Approach" 37(2) *JILI*, 147 (1995)

legislation are indirectly invoke their sustainable use of natural resources. These legislations are as follows-

- **The Indian Forest Act, 1927**

The framework of the Indian Forest Act, 1927 was based on the Act of 1878. The Act of 1878 provided the detailed British policy towards Indian forests. The two main limbs of the British forest policy in India were:

1. The transfer of control and ownership over forests from village communities to the government, except in respect of very limited area of forests; and
2. The government-permitted but controlled commercial exploitation of forest resources.

This policy of “commercialised forest-management” was institutionalised by the Indian Forest Act of 1927. So, the Act provided for the constitution of three categories of protected forest areas based on the uses, i.e. reserved forests²⁷, protected forests²⁸ and village forests²⁹. The preamble of the Act itself provides the commercial objective behind the legislation, as it provides that “an Act to consolidate the law relating to forests, the transit of forest produce and the duty levied on timber and other forest-produce”.

The Act also included provisions for hunting restrictions in the reserved or protected forests and authorised the government to establish the sanctuaries in the reserved of protected forests.

- **The Wildlife Protection Act, 1972**

The *Indian Wildlife (Protection) Act* was promulgated in 1972, with various provisions for protecting habitats and an all-India list of protected species.³⁰ These instrumentalities along with World Wild Fund helped in giving the birth to the Wildlife Protection Act, 1972. The Act was enacted by the parliament under the Constitution,³¹ after eleven State Legislatures passed the required resolutions.

The preamble of the Act provides for the protection of the wild animals, birds along with plants to ensure the ecological and environmental security of the country. The act adopts two-prolonged conservation strategy:

²⁷ Section 3 Indian Forest Act, 1927

²⁸Section 29 of the Wildlife Protection Act, 1972

²⁹*Ibid*, Section 28

³⁰Ashish Kothari *et. al.*, “Conservation in India: A New Direction” 30 *EPW* 2756 (1995), available at:<http://www.jstor.org>. last visited on Nov 24, 2020

³¹ Article 252 of the Constitution of India Act, 1950

1. Specified endangered species are protected regardless of location;
2. All species are protected in designated areas, called sanctuaries and national parks.

The Act originally envisaged the establishment of three kind of protected habitats under it, viz. sanctuaries³², national parks³³ and closed areas³⁴. The Act goes no further in laying down the additional guidelines for the identification of areas to be constituted as sanctuary or national parks, nor does it enumerate in detail the objectives to be served by the constitution of such protected habitats.³⁵ But the Act envisaged the listing of the wild animal under the schedules for the protection of the wild animals. It prohibits the hunting of wild animals included in the Schedules I, II, III and IV except certain specified conditions.³⁶

The Act has also envisaged the *trade and commerce regulatory measures* for the conservation and protection of wild animals and plants. It provides for the regulation of trade and commerce in the wild animals, animal articles, trophies and derivatives from certain animals.

- **The Forest (Conservation) Act, 1980**

The Forest (Conservation) Act was passed in response to the rapid decline in the forest cover. So, the Act adopted to protect and conserve forests and curb out the deforestation which causes ecological imbalance and leads to environment deterioration. The Act came into force with effect from October 25, 1980. The Act restricts the powers of the state in respect of de-reservation of forests and use of forestland for non-forest purposes. The term non-forest purpose has wide connotation and includes clearing any forestland for cultivation of cash crops, plantation crops, horticulture or any purpose other than forestation.

The Act provides that prior approval of the Central Government is essential for diversion of forestlands for the non-forestry purposes.³⁷ The basic objective of the Act is, to regulate the indiscriminate diversion of forestland for non-forestry uses and to maintain a logical balance between the development needs of the country and the conservation of natural heritage. The Act also provides for the constitution of

³² Section 18 of the Wildlife (Protection) Act, 1972

³³ *Ibid*, Section 35

³⁴ *Ibid*, Section 37

³⁵ Available at: <http://www.vanashakti.in/>, last visited on Nov 21, 2020

³⁶ Section 9 of the Wildlife Protection Act, 1972

³⁷ Section 2(1) of the Forest (Conservation) Act, 1980

Advisory Committee by the Central Government to advise it on matters connected with forest conservation.³⁸ The Act further provides for the imposition of penalty for the contravention of the provisions of the Act.

For such diversion of non-forestry purposes, compensatory afforestation is stipulated and catchment area treatment plan, wildlife habitat improvement plan, rehabilitation plan etc. are being implemented, to mitigate the ill effects of the diversion of such vast area of green forests.³⁹

- **The Environment (Protection) Act, 1986**

The concern over the state of environment has grown the world over since the sixties. The decline in the environmental quality has been evidenced by increasing pollution, loss of vegetal cover and biological diversity, excessive concentration of harmful chemicals in the ambient atmosphere and in food chains growing risk of environmental accidents and threat to life support systems has led the world community's resolution at United Nations Conference on Human Environment held in Stockholm June 1972. The Government of India participated in the Conference and strongly voiced the environmental concerns. Therefore to implement the India's obligation, the Parliament passed the Environment (Protection) Act in 1986 by virtue of Article 253 of the Constitution with following objects:⁴⁰

- a. To implement the decisions made at the U.N. Conference on Human Environment held at Stockholm in June 1972.
- b. To enact general law on environmental protection this could cover uncovered gaps in the areas of major environmental hazards.

This Act is an umbrella legislation designed to provide a framework for the co-ordination of central and state authorities⁴¹ established under the Water (Prevention and Control) Act, 1974 and Air (Prevention and Control) Act, 1981. Under this Act, the central government is empowered to take measures necessary to protect and improve the quality of the environment⁴² by setting standards for emissions and discharges; regulating the location of industries; management of hazardous wastes, and protection of public health and welfare. The Central Government is empowered to

³⁸Section 3 of the Environment (Protection) Act, 1986

³⁹ Arvind Jasrotia, *The Value of Nature: A Holistic Perception* 373-374 (Inter-disciplinary Press, Oxford, New Delhi, 2009)

⁴⁰Preamble, Environment (Protection) Act, 1986

⁴¹ Section 3(2)(i) of the Biological Diversity Act, 2002

⁴² *Ibid* Section 3(2)(i)

prevent, control and abate the environmental pollutions. The Act also prescribes the penalty for the contravention of its provisions.⁴³

From time to time the central government issues notifications under the EPA for the protection of ecologically-sensitive areas or issues guidelines for matters under the EPA.

5.4 THE BIOLOGICAL DIVERSITY ACT, 2002

In India, concerns for biodiversity conservation and use were addressed at least in part for several decades through various laws and policies as well as the umbrella The Environment (Protection) Act, 1986.⁴⁴ But the term ‘*biodiversity*’ only became a common term in the wake of adoption of the Biodiversity Convention at international level. So, taking cognizance of the International Convention on Biodiversity, and to address the excessive pressure on biodiversity, the Government of India has enacted The Biological Diversity Act, 2002 which was developed through an extensive and intensive consultation process involving the stakeholders initiated in 1994. The Act provides a legal mechanism for establishing sovereign rights over the Indian biodiversity and its conservation, protection against misappropriation, regulation of access and sustainable use of biodiversity and associated knowledge. For this purpose the Act provided the national, state and local level mechanisms for implementation of the Act.⁴⁵

The Act insists India’s Obligation to the United Nations Convention on Biological Diversity (CBD) signed at Rio-de-Janeiro and aimed to provide for the:

- a. Conservation of biological diversity,
- b. Sustainable use of its components, and
- c. Fair and equitable sharing of benefits arising out of utilization of genetic resources.⁴⁶

The Act defines ‘Biological Diversity’ to mean ‘*the variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species or between species and of eco-systems*’. And the ‘Biological Resources’ means ‘*plants, animals and micro-organisms or parts thereof,*

⁴³*Ibid*, Section 15

⁴⁴ Phillippe Cullet, *Intellectual Property Protection and Sustainable Development* 100 (LexisNexis Butterworths, New Delhi, 2005)

⁴⁵National Biodiversity Authority, Annual Report (2009-2010), available at: <http://www.nbaindia.org>. last visited on Nov 25, 2020

⁴⁶Preamble, Biological Diversity Act, 2002

their genetic material and by-products (excluding value added products) with actual or potential use or value, but does not include human genetic material’.

The Act mainly focuses on the regulation of access to biological diversity and genetic resources. So, Act envisaged various measures for the conservation and sustainable utilization of the genetic resources.

The most important measures adopted by the Act focuses on the access to biological resources and related issues. The Act stipulates clear norms for access to biological resources and traditional knowledge. This is due to the fact that the Act is in part a response to significant concerns over bio-piracy in the second part of the 1990’s and in part a response to other developments such as the adoption of the TRIPS Agreement.⁴⁷ Concerning access to biological resources the Act further deals mainly the question of access by foreigners. It proposes to put stringent limits on access to biological resources or related knowledge for all foreigners, whether from developing or developed countries. The Act provides three ways of access to biological resources;

- a. Access to biological resources and traditional knowledge to foreign citizens, companies and non-resident Indians based on the ‘prior approval of the National Biodiversity Authority (NBA)’.⁴⁸
- b. Access permits to Indian citizens companies, associations and other organizations registered in India on the basis of ‘prior intimation to the State Biodiversity Board’ concerned.⁴⁹
- c. Exemption of prior approval or intimation for local people and communities, including growers and cultivators of biodiversity, and Vaidis and Haqims, practicing indigenous medicines.⁵⁰

The key procedures to be followed for access to biological resources and traditional knowledge are dealt with under Rule 14 of the Biodiversity Rules 2004. These provisions are laid down to ensure effective, efficient and transparent access procedures through written agreements and applications in prescribed formats.

The makes special reference to intellectual property rights in the management of biological resources but does not directly address the subordination of intellectual

⁴⁷National Biodiversity Authority, Annual Report (2009-2010), available at:<http://www.nbaindia.org>. (last visited on Nov 25, 2020)

⁴⁸Section 3-6 of the Biological Diversity Act, 2002

⁴⁹Section 7 of the Biological Diversity Act, 2002

⁵⁰*Ibid*, Section 7

property rights to the goals of Biodiversity Convention as mandated by Article 16 of the Convention.

The Biological Diversity Act also seeks to address the questions of the rights of the holders of the local knowledge by setting up a system of benefit sharing. The Act governs access and benefit sharing (ABS) through a three tier system, i.e., National Biodiversity Authority (NBA) at the national level, the State Biodiversity Board (SBB) and Biodiversity Management Committees (BMCs) at local levels. The benefit-sharing scheme is innovative in that it provides that the authority can decide to grant joint ownership of a monopoly intellectual property rights to the inventor and the authority or the actual contributor if they can be identified. The Act under Article 21 also provides the other forms of benefit sharing which are progressive insofar as they prioritize the non-financial benefits such as the transfer of technology, which are more long lasting than financial compensation.⁵¹

The Act does not, however, give current right-holders the capacity to defend their rights in the same way that it seeks to equip the Indian state tools to ward-off the bio-piracy or even with the rights equivalent to that provided patent holders or applicants. In the cases where benefit-sharing is allocated in the form of money, the authority can direct the payment to the Biodiversity Fund, and the proceeds from this fund then either channelled to the benefit claimer or used generally for biodiversity management activities. The potential claimants do not have automatic access to shares of the benefits.

The Act prescribes some special provisions for the protection of traditional knowledge (TK). The Act prohibits ‘certain person from’ obtaining any biological resources occurring in India or knowledge associated there for research or for commercial utilization or for bio-safety and bio-utilization. The Act under Sections 3 and 4 prevents any person from transferring the results of any research for the monetary consideration or otherwise to such certain persons without the previous approval of the NBA.⁵² The Section 6 of the Act is the key provision dealing with IPR’s on biological resources and associated knowledge. It provides that “no person shall apply for any intellectual property right, by whatever name called, in or outside

⁵¹Philippe Cullet and Jawahar Raja, “*Intellectual Property Rights and Biodiversity Management: A Case of India*”, 4/1 *International Environmental Law Research Centre* 103 (2004), available at: <http://www.ielrc.org>., last visited on Nov 25, 2020

⁵²K. Venkataraman and S. SwarnaLatha, “*Intellectual Property Rights, Traditional Knowledge and Biodiversity in India*” 23 *JIPR* 332 (2008), available at: <http://www.http://nopr.niscair.res.in>., last visited on Nov 25, 2020

India for any invention based on any research or information on a biological resource obtained from India without obtaining the previous approval of the National Biodiversity Authority before making such application”.⁵³

The Act provides the Institutional arrangements for the conservation and sustainable use of biological resources. It provides for the establishment of the National Biodiversity Authority⁵⁴, State Biodiversity Boards⁵⁵ and Biodiversity Management Committees⁵⁶. These institutions are entrusted with the power and functions for the conservation of natural resources and to deal with the related issues.

The National Biodiversity Authority deals with the requests for access to bio-resources and associated traditional knowledge by foreign nationals, institutions or companies, and all matters pertaining to the transfer of research findings to any foreign national, imposition of terms and conditions to secure equitable sharing of benefits, establish sovereign rights over the bio-resources of India and approval for seeking any form of Intellectual Property Rights (IPRs) in or outside India for an invention based on research or information pertaining to a biological resource and associated traditional knowledge obtained from India. State Biodiversity Boards deal with matters relating to access to bio-resources by Indians for commercial purposes and restrict any activity which violates the objectives of conservation, sustainable use and equitable sharing of benefits. The mandate of the Biodiversity Management Committees is conservation, sustainable use, and documentation of biodiversity and chronicling of knowledge relating to biodiversity.

The Act further provides for the establishment of the local biodiversity funds. It penalizes certain acts under the Act. The Act also put obligation on the Central Government to develop the national strategies, plans, programmes for the conservation and promotion and sustainable use of biological diversity including measures for identification and monitoring of areas rich in biological resources, promotion of *in situ*, and *ex situ*, conservation of biological resources, incentives for research, training and public education to increase awareness with respect to biodiversity.

Management structure of Biodiversity Act:

⁵³Section 6 of the Biological Diversity Act, 2002

⁵⁴*Ibid*, Section 8

⁵⁵*Ibid*, Section 22

⁵⁶*Ibid*, Section 41

A three tiered structure at the national, state and local level is envisaged which are as follows-

- **National Biodiversity Authority (NBA)**

All matters relating to requests for access by foreign individuals, institutions or companies, and all matters relating to transfer of results of research to any foreigner will be dealt with by the National Biodiversity Authority. National Biodiversity Authority was constituted by the Central Government in pursuance of obligation under this Act.⁵⁷The Authority is consisting of following members:

- I. A Chairman as the Chief Executive, who shall be an eminent person having adequate knowledge and experience in the conservation and sustainable use of biological diversity and in matters relating to equitable sharing of benefits appointed by the Central Government
- II. Three ex officio members to be appointed by the Central Government, one representing the Ministry dealing with Tribal Affairs and two representing the Ministry dealing with Environment and Forests of whom one shall be the Additional Director General of Forests or the Director General of Forests.
- III. seven ex officio members to be appointed by the Central Government to represent respectively the Ministries of the Central Government dealing with Agricultural Research and Education, Biotechnology, Ocean Development, Agriculture and Cooperation, Indian Systems of Medicine and Homoeopathy, Science and Technology, Scientific and Industrial Research.
- IV. five non-official members to be appointed from amongst specialists and scientists having special knowledge of, or experience in, matters relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources, representatives of industry, conservers, creators and knowledge-holders of biological resources.

The Authority is established as body corporate having perpetual succession and common seal, with power to acquire, hold and dispose of property, both movable and immovable, and to contract, and to sue and be sued in its name.⁵⁸

⁵⁷The Biological Diversity Act, 2002

⁵⁸Supra note 83, Section 8(ii)

- **Powers and Functions of National Biodiversity Authority**

The National Biodiversity Authority established as an autonomous and statutory body performing enabling or facilitative, regulatory and advisory role to relevant agencies and Ministries of Government of India on issues of conservation of biodiversity, its sustainable use and ensuring fair and equitable sharing of benefits arising out of such use and to State Government on the issues in the selection of area of biodiversity importance. The NBA operates through consultative process involving expert committees and stakeholders. The authority entrusted with following powers and functions:⁵⁹

- i. It shall be the duty of the National Biodiversity Authority to regulate activities referred to in sections 3, 4 and 6 and by regulations issue guidelines for access to biological resources and for fair and equitable benefit sharing.
- ii. The National Biodiversity Authority may grant approval for undertaking any activity referred to in sections 3, 4 and 6.
- iii. The National Biodiversity Authority may-
 - a. advise the Central Government on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of benefits arising out of the utilization of biological resources;
 - b. advise the State Governments in the selection of areas of biodiversity importance to be notified under sub-section (1) of section 37 as heritage sites and measures for the management of such heritage sites;
 - c. Perform such other functions as may be necessary to carry out the provisions of this Act.
- iv. The National Biodiversity Authority may, on behalf of the Central Government, take any measures necessary to oppose the grant of intellectual property rights in any country outside India on any biological resource obtained from India or knowledge associated with such biological resource which is derived from India.

⁵⁹ *Ibid*, Section 18

Besides the above powers and functions there are some general functions which are also required to be performed by the Authority:⁶⁰

- i. organise through mass media a comprehensive programme regarding conservation of bio-diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge;
- ii. take steps to build up data base and to create information and documentation system for biological resources and associated traditional knowledge through bio-diversity registers and electronics data bases, to ensure effective management, promotion and sustainable uses;
- iii. take necessary measures including appointment of legal experts to oppose grant of intellectual property right in any country outside India on any biological resource and associated knowledge obtained from India in an illegal manner;
- iv. collect, compile and publish technical and statistical data, manuals, codes or guides relating to conservation of bio-diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge;
- v. provide technical assistance and guidance to the State Bio-diversity Boards;
- vi. commission studies and sponsor investigations and research;
- vii. plan and organise training of personnel engaged or likely to be engaged in programmes for the conservation of bio-diversity and sustainable use of its components;
- viii. sanction grants-in-aid and grants to the State Bio-diversity Board and Bio-diversity Management Committees for specific purposes and undertake physical inspection of any area in connection with the implementation of the Act ;

The Act further provides that certain activities cannot be undertaken without the prior approval of the National Biodiversity Authority. These activities include:

⁶⁰ Rule 12, The Biological Diversity Rules, 2004

- i. Obtaining of any biological resource occurring in India or knowledge associated with that biological resource for research or for commercial utilization or for bio-survey and bio-utilization by certain persons enumerated in the Act.⁶¹
- ii. Transfer of the results of any research relating to any biological resources occurring in India or obtained from India for monetary consideration or otherwise to certain class of persons.⁶²
- iii. To apply for patent or intellectual property right in or outside India for any invention based on any research or information on a biological resource obtained from India.⁶³

The National Biodiversity Authority is empowered under the Act to approve or reject the application for such approval after giving the applicant an opportunity of being heard. The Authority shall give public notice of every approval granted by it.⁶⁴

• **Achievements of the National Biodiversity Authority**

The first India Biodiversity Awards were jointly announced by the MoEFCC and UNDP in 2012 at the high level segment of the Eleventh meeting of the Conference of Parties to the Convention on Biological Diversity. Following its success, the second, the third and fourth India Biodiversity Awards were held in 2014, 2016 and 2018 respectively in partnership with the National Biodiversity Authority. Over 600 good cases of biodiversity conservation, sustainable use, access and benefit sharing and biodiversity governance were documented through the award process. The awards were institutionalized by the National Biodiversity Authority in 2017. UNDP continues to serve as Knowledge Partner.⁶⁵

The India Biodiversity Awards is a joint initiative by the Ministry of Environment, Forest and Climate Change, National Biodiversity Authority and the United Nations Development Programme. It is an innovative mechanism to identify and recognize the efforts of individuals, communities and institution working towards biodiversity conservation, sustainable use of biological resources, access and benefit sharing and biodiversity governance. The winners of India Biodiversity Awards 2020

⁶¹ Section 3, The Biological Diversity Act, 2002

⁶² *Ibid*, Section 4

⁶³ *Ibid*, Section 6

⁶⁴ *Supra* note 87, Section 19(iii & iv)

⁶⁵ Available at: <http://www.nbaindia.org/text/37/INDIABIODIVERSITYAWARDS2020.html>, visited on 21 Nov., 2020.

will be given a Memento, a Certificate and a cash prize of Rs. 2 lakhs each for individuals and Rs. 5 lakhs each for institutions.

- **State Biodiversity Boards (SBB)**

All matters relating to access by Indians for commercial purposes will be under the purview of the State Biodiversity Boards (SBB). The Indian industry will be required to provide prior intimation to the concerned Boards about the use of biological resource. The State Board will have the power to restrict any such activity, which violates the objectives of conservation, sustainable use and equitable sharing of benefits.

The U.P. State Biodiversity Board held one board meeting during this period. The Board has constituted a total of 264 BMCs as on 31st March 2018 of which 155 are at Village and one at Zilla Parishad level. A total of 256 PBRs have been prepared so far of which 157 were documented during the year of review. One book viz. Biodiversity: Living Treasures of Uttar Pradesh and fifteen flyers have been brought out. One application each has been approved under Section 23 (B) and Section 24(1) of the Biodiversity Act. The Board organized number of training cum awareness programmes such as Biodiversity Festival from 17th -21st May, 2017; International Day for Biological Diversity on 22nd May, 2017; World Environment Day on 5th June, 2017; International Day for Vulture Awareness on 2nd September, 2017; Wildlife week from 1st -7th October, 2017; World Wetlands Day on 2nd February, 2018; and World Sparrow Day on 20th March, 2018 where essay competitions, poster competitions, biodiversity quiz etc. were organized for the various stakeholders and school students. The Board has prepared an E-Souvenir on “Biodiversity and Sustainable Tourism”.⁶⁶

- **Biodiversity Management Committees (BMCs)**

Institutions of local state government will be required to set up biodiversity management Committees in their respective areas for conservation, sustainable use, and documentation of biodiversity and chronicling of knowledge relating to biodiversity. NBA and SBBs are required to consult the concerned BMCs on matters related to use of biological resources and associated knowledge within their jurisdiction.

⁶⁶ Available at: http://nbaindia.org/uploaded/Annual_report_2017-18_english., visited on 21 Nov., 2020.

In the pursuit of preservation of biodiversity of the cosmic this legislation paves the way for constitution of National Biodiversity Authority at centre level and State Biodiversity Board at state level. In the pursuant of the said Act State of Uttar Pradesh has constituted Uttar Pradesh Biodiversity Board,⁶⁷ Which are as follows-

(1) With effect from such date as the State Government may, by notification in the Official Gazette, appoint in this behalf, there shall be established by that Government for the purposes of this Act, a Board for the State to be known as the (name of the State) Biodiversity Board.

(2) Notwithstanding anything contained in this section, no State Biodiversity Board shall be constituted for a Union territory and in relation to a Union territory, the National Biodiversity Authority shall exercise the powers and perform the functions of a State Biodiversity Board for that Union territory:

Provided that in relation to any Union territory, the National Biodiversity Authority may delegate all or any of its powers or functions under this sub section to such person or group of persons as the Central Government may specify.

(3) The Board shall be a body corporate by the name aforesaid, having perpetual succession and a common seal, with power to acquire, hold and dispose of property, both movable and immovable, and to contract, and shall by the said name sue and be sued.

(4) The Board shall consist of the following members, namely:

(a) A Chairperson who shall be an eminent person having adequate knowledge and experience in the conservation and sustainable use of biological diversity and in matters relating to equitable sharing of benefits, to be appointed by the State Government;

(b) Not more than five ex officio members to be appointed by the State Government to represent the concerned Departments of the State Government;

(c) Not more than five members to be appointed from amongst experts in matters relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources.

(5) The head office of the State Biodiversity Board shall be at such place as the State Government

⁶⁷ *Ibid*, section 22

A similar mechanism is stated to exist at the village level, composed of transfers from the State Funds and other grants. This Local Biodiversity Fund shall be used ‘for conservation of biodiversity in the areas falling within the jurisdiction of the concerned local body and for the benefit of the community in so far such use is consistent with conservation of biodiversity’. Nowhere in the text of the Act stated how the fund would be set up, and more importantly, how actual amounts designated for the sharing of benefits will be calculated. It is ultimately up to the SBBs to determine this. In the case of the Kane, the amount decided were arrived at via consulting standards proposed by the CSIR. Presumably, SBBs would look to similar standards by which to gauge the actual amounts that would apply.

- **Initiatives taken by National Biodiversity Authority**

Since its establishment in 2003 the National Biodiversity Authority to achieve its foremost aim to create awareness among people about the need for biodiversity conservation and management for sustainable use of bio resources in India, the Authority organized a three-day exhibition on “Biodiversity of India” from 28th to 30th September 2004 along with various competitions for school children. The exhibition was much focused on school children to create a better awareness at the grass root level. Many school and college students, researchers, scientists, academicians, corporate and media personnel attended the exhibition. The response to the exhibition from the public was overwhelming. Further the authority in September 2004, in order to sensitize the media about the Biological Diversity Act, 2002 and the Biological Diversity Rules, 2004 organised a one-day meeting of the “Media Working Committee” at the National Biodiversity Authority, Chennai. The meeting was aimed at forming a working committee of media personnel to popularize the importance of the Biological Diversity Act, 2002 and Biological Diversity Rules, 2004 among Customs authorities, Export Departments MPEDA, APEDA etc., General Public, School and College students, Fishermen, Foreign Companies in India who are involved in access of bioresarches, Media persons and Teachers.⁶⁸

The Ministry of Environment, Forest and Climate Change (MoEFCC) as the nodal ministry for the implementation of CBD in India initiated action for preparation of NR6 in early 2017 in association with the National Biodiversity Authority (NBA) and support from Global Environment Facility (GEF) through United Nations

⁶⁸ National Biodiversity Authority, Annual Report (2004-05), at pp. 39-43, available at <http://nbaindia.org.>, last Visited on Nov 25, 2020

Development Programme (UNDP). The process began with extensive consultations with the multiple stakeholders at national and state levels. The stakeholders included representatives of the Central Government, state governments, State Biodiversity Boards (SBBs), other relevant government organisations, academia, civil society organisations, industry and business, domain experts, individuals and groups of people. A brochure comprising information on India's National Biodiversity Action Plan (NBAP), National Biodiversity Targets (NBTs) and their linkages with Aichi Biodiversity Targets and Sustainable Development Goals spelling out the requirements of national reporting was prepared and widely circulated to provide background information to seek relevant inputs from stakeholders. The brochure initially prepared in English was translated into eight different Indian languages to reach the largest possible number of stakeholders.

A dedicated web-portal for receiving inputs online for NR 6 further facilitated wider outreach to stakeholders. Six Regional Consultations covering all States were organised between July-September 2017.⁶⁹ In addition, a few NBT-specific consultations were hosted by national level technical institutions for receiving focused inputs on specific thematic areas. These regional consultations were followed by State level consultations organized by SBBs involving all stakeholders to get state specific data and information. A specialized team was engaged under a senior consultant to draft the National Report analysing all the information generated through these activities. The members of the team participated in these regional and state level consultations. The team also conducted personal interviews with domain experts, held group discussions with experts, industry and other users to get their perspectives and data. A video on 'Preparation of India's NR 6: Process and Status' was presented during the 'Workshop on the preparation of the Sixth National Report' in Montreal on December 9, 2017, by way of sharing of experience. A 'Zero Draft' of NR6 was prepared by the specialised team based on the information collected from various stakeholders, and other relevant sources such as official websites, annual reports of the ministries, departments and state governments, published case studies and all other available relevant information. The 'Zero Draft' was shared with all the central ministries, departments, organizations and the divisions of MoEFCC for review, endorsement and suggestions.

⁶⁹Available at- www.nationalreport6.in., last Visited on Nov 25, 2020

A 'National Consultation' was organized on 17 July 2018 by the MoEFCC. Representatives of 23 Central Ministries, NITI Ayog, and national level technical lead agencies such as Botanical Survey of India (BSI), Zoological Survey of India (ZSI), Wildlife Institute of India (WII), Indian Council of Forestry Research and Education (ICFRE), National Council for Educational Research and Training (NCERT), National Bureau of Plant Genetic Resources (NBPGR), Central Pollution Control Board (CPCB) attended the National Consultation. The zero draft was revised by incorporating comments/inputs received during the National Consultation and the revised first draft was circulated to a group of experts for their comments/inputs. Simultaneously first draft was examined internally in MoEFCC and NBA. After a series of meetings of the core group, the first draft was finalised. While all the five previous National Reports to CBD were prepared with involvement of stakeholders, consultations for preparation of NR6 have been the most extensive and elaborate so far.⁷⁰

By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification. By 2020, at least 17% of terrestrial and inland water, and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively.

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.⁷¹

5.5 THE NATIONAL GREEN TRIBUNAL ACT, 2010

It has been felt for long time by the Government of India to provide effective access to judicial and administrative proceedings, including redress and remedy and to develop national laws regarding liability and compensation for the victims of

⁷⁰ Available at- <http://www.nationalreport6.in.>, last Visited on Nov 25, 2020

⁷¹ Available at- <http://nbaindia.org.>, last Visited on Nov 25, 2020

pollution⁷². India, being one of the participating countries in the United Nations Conference on the Human Environment held at Stockholm in June, 1972 and the United Nations Conference on Environment and Development held at Rio de Janeiro in June, 1992⁷³, aims to set up specialized environmental courts in the country namely 'National Green Tribunal' enacted national green tribunal Act 2010. In this Act National Green Tribunal has been constituted to exclusively deal with the cases relating to environmental protection and conservation of forests and other natural resources. This Act empowered the NGT for the enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property. NGT is a specialised body, which is equipped with the required expertise to deal with the cases of environmental problems and also inter-disciplinary matters. This act also makes the mandatory provisions for the speedy disposal of the cases within the specified time frame. Tribunal is not bound to follow the procedure provided in the civil procedure code but the principles of natural justice⁷⁴.

Overall, one of the striking features of the Act is that it completely obliterates the common property arrangements whose importance and extent in the context of the management of biological resources is still immense. The Act centralizes property rights either in the hands of the state through sovereign appropriation or in the hands of private inventors through monopoly intellectual property rights.

These are the some achievements of National Green Tribunal such as:

- In 2012, POSCO a steelmaker company signed a MoU with the Odisha government to set up steel project. NGT suspended order and this was considered a radical step in favour of the local communities and forests⁷⁵.
- In 2012 *Almitra H. Patel vs. Union of India* case, NGT gave judgment of complete prohibition on open burning of waste on lands, including landfills – regarded as the single biggest landmark case dealing with the issue of solid waste management in India.

⁷² Leelakrishnan, P, *Environmental Law in India*, 251, (Lexis Nexis, Butterworths Wadhwa Nagpur, Third Edition, 2008).

⁷³ O. P. Shukla, *Environmental Protection Law*, 218, (Agrotech Press, New Dehli, First Edition, 2013).

⁷⁴ Available at: <http://www.greentribunal.gov.in.>, last visited on Nov 25, 2020

⁷⁵ Available at: <https://www.drishtiiias.com/important-institutions/drishti-specials-important-institutions-national-institutions/national-green-tribunal-ngt>, last visited on Nov 25, 2020

- In 2013 in Uttarakhand floods case, the Alaknanda Hydro Power Co. Ltd. was ordered to compensate to the petitioner – here, the NGT directly relied on the principle of ‘polluter pays’.
- In 2015, the NGT ordered that all diesel vehicles over 10 years old will not be permitted to ply in Delhi-NCR.
- In 2017, the Art of Living Festival on Yamuna Food Plain was declared violating the environmental norms, the NGT panel imposed a penalty of Rs. 5 Crore.
- The NGT, in 2017, imposed an interim ban on plastic bags of less than 50-micron thickness in Delhi because “they were causing animal deaths, clogging sewers and harming the environment”.

5.6 NATIONAL POLICIES AND PLANS TO CONSERVE THE BIODIVERSITY

Besides the above Constitutional framework there are number of policies and plans initiatives has been forwarded for the conservation and protection of biodiversity by different ministries from time to time. Some of these policies are as follows-

- **National Forest Policy, 1988**

For the effective conservation and protection of forests the Ministry of Environment and Forests adopted a National Forest Policy on 7th December, 1988⁷⁶. The principal aim of Forest Policy is to ensure environmental stability and maintenance of ecological balance including atmospheric equilibrium which is vital for sustenance of all life-forms, human, animal and plant.⁷⁷ The derivation of direct economic benefit must be subordinated to this principal aim.⁷⁸

The Policy has also some basic objectives:

1. Maintenance of environmental stability through preservation and, where necessary, restoration of the ecological balance that has been adversely disturbed by serious depletion of the forests of the country.

⁷⁶ H. P. Behera, *Forest and Biodiversity Management*, 156, (Himalya Publishin House Pvt. Ltd., Mumbai, First Edition, 2009, Re- print 2011).

⁷⁷ Preamble, National Forest Policy, 1988, The Ministry of Environment and Forests, available at: <http://www.moef.nic.in.>, last visited on Nov 21, 2020

⁷⁸ Para 2.2 of the National Forest Policy, 1988

2. Conserving the natural heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country.⁷⁹
3. Checking soil erosion and denudation in the catchment areas of rivers, lakes, reservoirs in the "interest of soil and water conservation, for mitigating floods and droughts and for the retardation of siltation of reservoirs.
4. Checking the extension of sand-dunes in the desert areas of Rajasthan and along the coastal tracts.
5. Increasing substantially the forest/tree cover in the country through massive afforestation and social forestry programmes, especially on all denuded, degraded and unproductive lands.
6. Meeting the requirements of fuel-wood, fodder, minor forest produce and small timber of the rural and tribal populations.
7. Increasing the productivity of forests to meet essential national needs.
8. Encouraging efficient utilisation of forest produce and maximising substitution of wood.
9. Creating a massive people's movement with the involvement of women, for achieving these objectives and to minimise pressure on existing forests.⁸⁰

- **National Conservation Strategy and Policy Statement on Environment and Development, 1992**

National Conservation Strategy and Policy Statement on Environment and Development was prepared by Ministry of Environment and Forests in response to the political, social, cultural, economic and scientific progress that has ravaged the ecology of our planet and destroyed the good environmental sense that has always been one of the fundamental features of India's ancient philosophy and it was adopted in June 1992.⁸¹

The National Conservation Strategy in its preamble recognised that the survival and well-being of a nation depend on sustainable development. It is a process of social and economic betterment that satisfies the needs and values of all interest

⁷⁹ *Ibid*, Para 4

⁸⁰ Para 2.1 of the National Forest Policy, 1988

⁸¹ National Conservation Strategy and Policy Statement on Environment and Development, available at: <http://moef.nic.in.>, last accessed on Nov 21, 2020

groups without foreclosing future options. To this end, we must ensure that the demand on the environment from which we derive our sustenance, does not exceed its carrying capacity for the present as well as future generations.⁸²

The primary purpose of the strategy and the policy statement is to include & reinforce our traditional ethos and to build up a conservation society living in harmony with nature and making frugal and efficient use of resources guided by the best available scientific knowledge.⁸³

The National Conservation Strategy has developed an agenda for action which includes:⁸⁴

- to ensure sustainable and equitable use of resources for meeting the basic needs of the present and future generations without causing damage to the environment;
- to prevent and control future deterioration in land, water and air which constitute our life-support systems;
- To take steps for restoration of ecologically degraded areas and for environmental improvement in our rural and urban settlements;
- To prevent further damage to and conserve natural and man-made heritage;
- To ensure that development projects are correctly sited so as to minimize their adverse environmental consequences;⁸⁵
- To ensure that the environment and productivity of coastal areas and marine ecosystems are protected;
- To conserve and nurture the biological diversity, gene pool and other resources through environmentally sustainable development and management of ecosystems, with special emphasis on our mountain, marine and coastal, desert, wetlands, river and island ecosystems; and,
- To protect the scenic landscapes, areas of geomorphologic significance, unique and representative biomes and ecosystems and wildlife habitats, heritage.

⁸²Preamble National Conservation Strategy and Policy Statement on Environment and Development, 1992

⁸³*Ibid*, Para 4.2

⁸⁴*Ibid*, Para 4.3

⁸⁵ Para 4.4 of the National Conservation Strategy and Policy Statement on Environment and Development, 1992

National Zoo Policy, 1998

The growing awareness for nature & wildlife conservation has made zoos a popular institution. The need for making conservation as one of the main objectives of management of zoos was realized by Government of India soon after independence. The Government set up an Expert Committee on Management of Zoos in November, 1972 and its recommendations were accepted in June, 1973. The Committee made recommendations for improving the management of Zoos. The National Wildlife Action Plan of 1983 again emphasized the role of ex-situ conservation in national conservation efforts.⁸⁶ In pursuance of recommendations and need for managed ex-situ conservation the Govt. of India formulated National Zoo Policy in 1998. The National Zoo Policy aims at giving proper direction and thrust to the management of zoos by mustering co-operation and participation of all concerned.⁸⁷ The Policy stated the objective of the zoos. It provides that the main objective of the zoos shall be to complement and strengthen the national efforts in conservation of the rich biodiversity of the country, particularly the fauna.⁸⁸

The objective can be achieved through the following protocol –

- Supporting the conservation of endangered species by giving species, which have no chance of survival in wild, a last chance of survival through coordinated breeding under ex-situ condition and raise stocks for rehabilitating them in wild as and when it is appropriate and desirable.
- To inspire amongst zoo visitors empathy for wild animals, an understanding and awareness about the need for conservation of natural resources and for maintaining the ecological balance.⁸⁹
- Providing opportunities for scientific studies useful for conservation in general and creation of database for sharing between the agencies involved in in-situ and ex-situ conservation.

Apart from this, the Policy also provides for proper housing of animals,⁹⁰ highest standards for health care,⁹¹ breeding programmes for species⁹² and research training and education of veterinary science and also the proper amenities to the visitors.

⁸⁶Para 1.3 of the National Zoo Policy, 1998

⁸⁷*Ibid*, Para 1.8

⁸⁸*Ibid*, Para 2.1

⁸⁹ Para 1.4 of the National Zoo Policy, 1998

⁹⁰*Ibid*, Para 3.3

- **Wildlife Conservation Strategy, 2002**

In the year 2002 the Department of Wildlife and Forests to the Ministry of Environment and Forests adopted a *Wildlife Conservation Strategy* for the conservation of wildlife.⁹³ The Strategy includes:

- Law enforcement agencies must ensure that those engaged in poaching, illicit trade in wildlife and wildlife products, destruction of their habitat, and such other illegal activities are given quick and deterrent punishment.
- We should fully tap the potential in wildlife tourism and at the same time take care that it does not have adverse impact in wildlife and protected areas. The revenue earned from increased tourism should be used entirely to augment available resources for conservation.
- Lands falling within 10 km. of the boundaries of National Parks and Sanctuaries should be notified as eco-fragile zones under section 3(v) of the Environment (Protection) Act and Rule 5 Sub-rule 5(viii) & (x) of the Environment (Protection) Rules. And removal of encroachments and illegal activities from within forest lands and Protected Areas.

Besides the Wildlife Conservation Strategy the Ministry has also formulated a *National Zoo Policy* for making conservation as one of the objectives in the zoo management, and to inspire the zoo visitor empathy for animals and supporting the conservation of endangered species.⁹⁴

- **National Water Policy, 2012**

Water being a prime natural resource, is a basic human need and a precious national asset. It is part of a larger ecological system. Accordingly, the Drafting Committee on National Water Policy has evolved the draft policy after taking into consideration recommendations of various stake holders and now we have National Water Policy 2012. Main feature of this policy are as follows:

This policy has given importance to the need of a national water framework law, comprehensive legislation for optimum development of inter-state rivers and

⁹¹*Ibid*, Para 3.5

⁹²*Ibid*, Para 3.6

⁹³Wildlife Conservation Strategy, 2002, The Ministry of Environment and Forests, available at: <http://www.moef.nic.in/>, last accessed on Nov 21, 2020

⁹⁴ Preamble, National Zoo Policy, The Ministry of Environment and Forest, available at: <http://www.Moef.nic.in/>, last accessed on Nov 21, 2020

river valleys, public trust doctrine, amendment of the Indian Easements Act, 1882, etc.

Basic minimum quality for essential health and hygiene and sustenance of ecology has been defined as pre-emptive need, which must be ensured. Water has been recognized as economic good, over and above pre-emptive need, for the first time, which would promote maximization of value of water and its conservation and efficient use.

This policy states the ecological needs of the river recognised that the river flows are characterized by low or no flows, small floods, large floods and flow variability and should accommodate development needs. A portion of river flows should be kept aside to meet ecological needs ensuring that the proportional low and high flow releases correspond in time closely to the natural flow regime.

This policy also emphasise the requirements to adapt climate change scenario in planning and implementation of water resources projects. Coping strategies for designing and management of water resource structures and review of acceptability criteria has been emphasized.

Need and approaches towards enhancing water availability have been stipulated. Direct use of rainfall and avoidance of inadvertent evapo-transpiration have been proposed as the new additional strategies for augmenting utilizable water resources.

- **National Environment Policy, 2006**

The National Environment Policy in its preamble seeks to extend the coverage, and fill in gaps that still exist, in light of present knowledge and accumulated experience. It does not displace, but builds on the earlier policies. The Policy is a response to our national commitment to a clean environment, mandated in the Constitution in Articles 48 A and 51 A(g), and strengthened by judicial interpretation of Article 21.⁹⁵ The principal objectives of the Policy relate to current perceptions of key environmental challenges. This has led to the adoption of National Environmental Policy on 18th May, 2006.⁹⁶ They are accordingly:

⁹⁵Preamble of the National Environment Policy, 2006

⁹⁶National Environment Policy, 2006, The Ministry of Environment and Forests, *available at*: [http://www. envfor.nic.in](http://www.envfor.nic.in), last visited on Nov 21, 2020

1. To protect and conserve critical ecological systems and resources, and invaluable natural and man-made heritage, which are essential for life support, livelihoods, economic growth, and a broad conception of human well-being.
2. To ensure equitable access to environmental resources and quality for all sections of society, and in particular, to ensure that poor communities, which are most dependent on environmental resources for their livelihoods, are assured secure access to these resources.
3. To ensure higher resource flows, comprising finance, technology, management skills, traditional knowledge, and social capital, for environmental conservation through mutually beneficial multi stakeholder partnerships between local communities, public agencies, the academic and research community, investors, and multilateral and bilateral development partners.⁹⁷

The National Environment Policy has included certain principles⁹⁸ for the effective implementation of the Policy such as the Precautionary Principle, Polluter Pays principle, Public Trust Doctrine, Principle of Economic Efficiency, Principle of Equity and Justice, Legal Liability Principle etc. The Policy also provides the strategies and actions to be taken in the different sectors of the environment. The Policy has suggested various reforms including regulatory reforms and substantive reforms in different area like Environment and Forests Clearances, Coastal Areas, Living Modified Organisms (LMO's), Environmentally Sensitive Zones, Monitoring of Compliance, Use of Economic Principles in Environmental Decision-making.⁹⁹

The Policy has also provided for enhancing and conserving environmental resources in different ecological areas, namely land degradation, desert ecosystems, forests and wildlife, freshwater resources, mountain ecosystems, coastal resources, pollution abatement, climate change.

- **National Biodiversity Action Plan, 2008**

In view the prevailing threats to biodiversity as well as challenges to the ongoing conservation efforts, National Biodiversity Action Plan (NBAP) was formulated in 2008 consistent with the ecological, social, cultural and economic mosaic of the country. The Plan proposes to design actions based on the assessment of

⁹⁷*Ibid*, Para 3

⁹⁸*Ibid*, Para 4

⁹⁹Para 5.1 of the National Environment Policy, 2006

current and future needs of conservation and sustainable utilization, and of physical and fiscal instruments, with particular reference to implications and impact of such instruments on short and long term basis. NBAP are aimed towards integration of the three objectives of the CBD into relevant sectoral or cross-sectoral plans, programmes and policies, it takes into account ecosystem approach, where appropriate, and promotes mainstreaming of gender considerations.

The objectives of the Plan¹⁰⁰ are premised on principles; right to development, precautionary approach, and economic efficiency, entities with ‘incomparable’ value, equity, public trust doctrine, decentralisation, integration, preventive actions, and environmental offsetting. The most important of these principles is that human beings are at the centre of sustainable development concerns.

The said Biodiversity Action Plan enumerate the following steps already taken or to be taken in this regard¹⁰¹-

In order to conserve the representative ecosystems, a Biosphere Reserve (BR) programme is being implemented. Fifteen BRs have been notified, of which four have been recognized by the UNESCO under the World Network of BRs. Fourteen more potential sites have also been identified for this purpose. Specific programmes for scientific management of wetlands, mangroves and coral reef are under implementation. The Ramsar site has been declared as internationally significant wetlands site. A National Lake Conservation Plan (NLCP) is being implemented for conservation of polluted and degraded urban/semi-urban lakes. As on March 2007, 31 projects for conservation of 46 lakes have been taken up. A National River Conservation Plan (NRCP) is also under implementation in 160 towns along polluted stretches of 34 rivers spread over 20 States.¹⁰²

Subsequent to amendment to the Wildlife (Protection) Act in the year 2006, National Tiger Conservation Authority and Wildlife Crime Control Bureau have been constituted. A National Medicinal Plants Board was set on 24th November, 2000 to promote co-ordination and implementation of policies relating to medicinal plants both at the Central and State levels. Cultivation of medicinal and other economically important plants can also be promoted through home herbal and kitchen gardens, resident welfare associations in urban and semi-urban areas, village commons, etc.

¹⁰⁰Chapter 4, National Biodiversity Action Plan, 2008

¹⁰¹Prepared by Dr. Sujata Arora &Dr. J.R. Bhatt [F. No. J-22018/25/29/99-CS (BC)-Vol.(VI)]

¹⁰² Ministry of Environment & Forest, Government of India., available at- <https://www.india.gov.in>., last visited on Nov 21, 2020

Ensuring inter and intra-generational equity Conservation and sustainable use of biodiversity have been integrated into national decision-making through policy statements, legislative measures and programmes. Sustainable use of biological diversity is emphasized in various policy statements of the Government, notably the National Conservation Strategy and Policy Statement on Environment and Development, 1992, the National Forest Policy, 1988, the National Wildlife Action Plan (2002-2016), and the National Environment Policy, 2006.

NEP does not substitute the preceding policy frameworks but is an adjunct to previous policies. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act enacted in 2006, is a tool to provide occupational and habitation rights to the people.¹⁰³

In India, a multi-agency and multi-programme approach, involving several Ministries and agencies, is being followed for regulating introductions and managing invasive alien species. Major activities include regulation of introduction of exotic living materials, their quarantine clearance and release for research and direct use.

India has established National Clean Development Mechanism Authority (NCDMA) for according host country approval to CDM projects as mandated under the Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC). The Government has set up an 'Expert Committee on the Impacts of Climate Change' on 7th May, 2007 under the chairmanship of Dr. R. Chidambaram. The Ministry of Rural Development through its various programmes such as Integrated Wasteland Development Programme (IWDP), Drought Prone Area Programme (DPAP) and Desert Development Programme (DDP) on watershed basis, strives for development of land resources, controlling desertification, and livelihood generation with the overall objective of poverty alleviation.¹⁰⁴ Hence, we have to assess the need for adaptation to future impacts of climate change at national and local levels and the scope for incorporating the outputs of such assessments in relevant programmes, including watershed management, coastal zone planning and regulation etc.,

¹⁰³ *Ibid*

¹⁰⁴ Available at:- <http://envfor.nic.in>, last visited on Nov 21, 2020

5.7 CONCLUSION

The above mentioned facts, laws, policies and action plans in this chapter we finds that the laws are made for the human beings to protect their life and property, maintain their livelihood and the environmental health where they live. To maintain healthy livelihood of human beings including all floral and faunal species on the earth, the biological diversity is to be conserve by the law and it's implementing authorities such as national biodiversity authority, state biodiversity boards, biodiversity management committees and National Green tribunal. To protect the Indian Biodiversity and access benefits sharing in the light of CBD, 1992 the Parliament of India had passed an Act specifically in 2002 after one decade of concerned Convention known as The Biological Diversity Act, 2002.

The Biological Diversity Act, 2002 and Biological Diversity Rules, 2004 are the basic legal instruments in India to protect and preserve biological diversity. To strengthen those legal instruments, the previously mentioned amendment of the above mention Act and thereafter Biological Diversity Rules, 2004 should be made immediately. The Government agencies, non-Government organizations and village-level local communities are contributing towards conservation of biological diversity by taking various efforts.

Simultaneously, some groups are taking certain steps which are directly responsible for declining biological diversity. They do not pay their attention for conservation of biological diversity (or biodiversity), sustainable use of its components and fair and equitable sharing of benefits arising from genetic resources. These are intentional and in some cases, unintentional. Those who are responsible for extinction of biological species, decrease the number of certain species, are not strictly facing exemplary punishment. Only the National Policy like the National Biodiversity strategy and Action Plan (NBSAP) adopted in 1999 by the Ministry of Environment and Forest, Government of India, is not enough cope with this gigantic problem. Therefore, more consolidated legislations, Biological Diversity Act, 2002 and Biological Diversity Rules, 2004 may give us concrete footing to protect our enriched biological diversity and access benefits sharing from being decayed and save the environmental health of this earth is our home.



CHAPTER-VI

ACCESS BENEFIT SHARING AND INDIAN JUDICIARY



ACCESS BENEFIT SHARING AND INDIAN JUDICIARY

6.1 INTRODUCTION

India is the richest country of natural resources on the basis of geographical structure and complex biological diversity existence in this country. Natural resources are the source of earn economy and access benefits sharing of natural resources to control sovereignty principle of nation. Indian judiciary is the guardian of constitution as well as constitutional and legal rights.

Developing country like India, there has been environmental degradation and exploitation of natural resources, due to poverty, population explosion, depletion of water resources, industrialization, and urbanization and problem of waste management in contemporary scenario. However, India has never been oblivious of this fact. Being acutely concerned with the growing biodiversity degradation and rapid loss this resource in the country. The efforts of the highest Court in environmental pollution control through litigation is indeed laudable particularly when the legislature is lagging behind in bridging the lacuna in the existing legal system and administration is not well equipped to meet the challenge.¹

The Indian Judiciary has made significant contribution to the development of environmental jurisprudence by resorting to international conventions and agreement. The Indian judiciary many a times has taken recourse to the international principles regarding environmental protection to overcome administrative indifferences and fix the lacunae in the existing legislation. This chapter deals with the role of Indian judiciary in order to the conservation of biodiversity and sustainable development in different phases.

With the activist approach of the Indian judiciary, the legal value of Fundamental Rights and Directive Principles jurisprudence has constantly grown up in the Indian Constitutional set-up. The Courts in India, while interpreting the Constitutional provisions, started right-based approach in 1990's for the protection of wholesome environment including the biological resources. Thus the Constitutional provisions related to environmental protection are of pivotal significance.

¹ M. P. Jain, Indian Constitutional Law 98, (Kamal Law House, Calcutta, 5 edn., 1998)

The Supreme Court strengthened Article 21 by interpreting the right to life and personal liberty to include the right to a wholesome environment, and also by requiring the laws affecting personal liberty to pass the tests of Article 14 and Article 19 of the Constitution,² thereby ensuring that the procedure depriving a person of his or her personal liberty be reasonable, fair and just. The court also recognized several unarticulated liberties implied under Article 21.³ The Supreme Court of India growing reputation as a Green Court stems from its increasingly active interventions in protecting environment and biodiversity conservation.⁴

6.2 PHASE- I (1980-1990)

Under this particular phase there is only one case regarding the protecting environment and biodiversity conservation. The first indication of the right to a wholesome environment may be traced to the case of *Rural Litigation and Entitlement Kendra, Dehradun vs. State of Uttar Pradesh*⁵ which is also known as *Dehradun Quarrying Case*,

*“Whereby treating a letter, concerning allegations of illegal limestone mining in the Mussoorie- Dehradun region which were devastating the fragile ecosystems in the area, as writ petition, the Supreme Court passed several orders for the protection of the region. But none of these orders articulate the fundamental right to a healthful environment.”*⁶

6.3 PHASE- II (1991 to 2000)

After eight years of the above case, in the case of *Subhas Kumar v. State of Bihar*⁷, Justice K.N. Singh observed that “

“The right to live is a fundamental right under Article 21 of the Constitution, and it includes the right of enjoyment of pollution-free water and air for full enjoyment of life”. From this case it may be said that the Court started the right based approach to the wholesome environment.”

² Maneka Gandhi v. Union of India AIR 1978 SC 597

³ Francis Coralie Mullin v. The Administrator, Union Territory of Delhi, AIR 1981 SC 746

⁴ Geetan joy Sahu, *Environmental Jurisprudence and the Supreme Court* 56, (Orient Blackswan Private Limited, New Delhi, 2014)

⁵ AIR 1988 SC 2187

⁶ Shyam Diwan & Armin Rosencranz, *Environmental Law and Policy in India: Cases, Materials and Statutes*, 49-50 (Oxford University Press, New Delhi, 2nd edn., 2012).

⁷ AIR 1991 SC 420

In *Chameli Singh v. State of Uttar Pradesh*⁸,

“While deriving the right to shelter under Article 21 the Supreme Court held that this right of shelter would include “the right to decent environment and a reasonable accommodation to live in”.

Further, the Supreme Court while expanding this theme in a town planning case, *Virender Gaur vs. State of Haryana*,⁹ observed that:

“Article 21 protects the right to life as a fundamental right. Enjoyment of life...including the right to live with human dignity encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation, without which life cannot be enjoyed. Any contra act or actions would cause environmental pollution including ecological, air, water pollution etc. should be regarded as amounting to violation of Article 21. Therefore, hygienic environment is an integral facet of right to healthy life and it would be impossible to live with human without a human and healthy environment.”

The nature and process of judicial decision making in environmental cases from 1990 to 2000 have been shaped by several innovative methods that the court has introduced in addressing the various socioeconomic, cultural and political values resolving around environmental problems in the country.

The growth of concept of environment protection and conservation of biodiversity in India has been largely influenced and accelerated by Public Interest litigation. PIL is a proceeding in which individual or social groups seek relief in the interest of the general public and not for its own purpose. It has generated tremendous awakening amongst people about environment protection and biodiversity conservation, has ushered in the evolution of innovative judicial techniques to arrest biodiversity degradation and has transformed the jurisprudence of public law review.

In *Pradeep Krishnan vs. Union of India*¹⁰ case, an order of the Department of Forests passed by the State of Madhya Pradesh permitted the tribals to collect tendu leaves in National Parks and Sanctuaries was challenged by the petitioner, an

⁸ AIR 1996 SC 1051

⁹ [1995 (2) SCC 577]

¹⁰ AIR 1996 SC 2040

environmentalist. The petitioner contended that the said order violated the provisions of Wildlife (Protection) Act, 1972, and the Articles 14 and 21, 48-A and 51 A (g) of the Indian Constitution as it amounted to commercial exploitation of tendu leaves. The respondent, however, argued that there was no actual danger or damage caused to the flora, fauna and wildlife in the National Parks and Sanctuaries due to the said order. The tribals on the other hand argued that it had been their privilege for ages to collect tendu leaves as they were the genuine users of tendu leaves and as the collection of the tendu leaves was for their livelihood and not for any commercial purposes. The Apex Court after hearing the arguments of both sides, directed the State Government to take steps to issue the final notification and conduct an enquiry concerning the acquisition of rights of tribal's over the land. The court observed:

“If one of the reasons for forest degradation is the entry of villagers and tribal's living in and around the Sanctuaries and National Parks, there can be no doubt that urgent step must be taken to prevent any destruction or damage to the environment, flora and fauna and wild life in those areas. If the only reasons which compels the state government to permit entry and collection of tendu leaves is it not having acquired the right of villagers or tribal's and having failed to locate any area for their rehabilitation, the Court think that inertia in this behalf cannot be tolerated.”

In **T.N. Godavarman Thirumulkpad v Union of India**,¹¹ (popularly known as *Forest Conservation case*),

“the Supreme Court Issued interim directions that all the on-going activities within any forest in any State throughout the country without the permission of the Central Government must be stopped forthwith. Running of saw mills including veneer or plywood mills within the forests was also stopped. Felling of trees in the State of Arunachal Pradesh was totally banned in certain forests whereas in other forests it was suspended in accordance with the working plan of the State Government. Movement of cut trees and timber from any of the seven North-Eastern States to any other State was completely banned. The Court issued directions to stop felling of trees in other States such as the State of J&K, Himachal Pradesh

¹¹[(1997) 2 SCC 267]; See also (2006) SCC 413

and Tamil Nadu, with a view to protect and preserve the forests. The Supreme Court modified some of these directions subsequently. The Court called for the comprehensive statement of all the States about their past activity and their future program to tackle the problem of degradation and degeneration of forests.”¹²

One of the most controversial judgments delivered by the Supreme Court in respect of environmental cases relates to the *Narmada Bachao Andolan vs. Union of India & others*¹³. This case came before the Supreme Court in 1994 through a writ petition filed by the Narmada Bachao andolan (NBA) challenging various stands of the Government of India and issues revolving around the Sardar Sarovar Project.

“The court noted that the conception of the project was that of the government and that the only thing a court could do was to ensure that system worked in the manner envisaged. It is sated that in respect of public project, the Court should not become an approval authority. The Court finally decided to dispose of the case with a few directions and accordingly the majority judgment (2:1) dismissed the public petition filed by NBA while upholding the Government decision.”

6.4 PHASE- III (2001-2010)

After the commencement of the Biological diversity Act, 2002, the judicial response on conservation of biodiversity is the dynamic in nature. In 2002, **V. R. Krishna Iyer** delivered the keynote address at a workshop on Judicial Enforcement of Environment Law’ in Karnataka where he highlighted the interdependence of environmental decision making and human rights in the following statement: “The survival of life needs an environment which sustains it and so it is that human right makes sense only where human life can flourish and this condition mandates the preservation of propitious environment. Our founding deed therefore lays great stress on environmental and ecological justice sans which flamboyant phrases about fundamental freedoms are glittering gibberish. If life is dear, environment too is dear and environmental justices thus s foremost constitutional value.”

¹² [(1997) 10 SCC 775]

¹³ AIR 2000 SC 3751

In *K.M. Chinnappa and T.N. Godavarman Thirumalpad vs. Union of India & Ors.*¹⁴ It was noted that:

Kudermukh National Park in which mining activities were being carried out was declared to be a National Park in terms of Section 35(1) of the Act. The matter was referred to the Central Empowered Committee constituted under Section 3 of the Environment (Protection) Act, 1986. The seminal issue involved is whether the approach should be “dollar friendly” or “eco-friendly”. As observed by Simon Bell and Stuart Bell in ‘Environmental Law’: In the words of the White Paper on the Environment. This Commons Inheritance the issues range ‘from the street corner to the stratosphere.’ Finally, it is big in terms of the knowledge and skills required to understand a particular issue. Law is only one element in what is a major cross-disciplinary topic. Lawyers need some understanding of the scientific, political and economic processes involved in environmental degradation. Equally all those whose activities and interests relate to the environment need to acquire an understanding of the structure and content of environmental law, since it has a large and increasing role to play in environmental protection.

In *Wildlife Protection Society vs. State of Andhra Pradesh*,¹⁵ two writ petitions were clubbed together as the Issues and points of law involved and discussed in both the writs were similar in nature. Thus, in the first writ petition filed by the Wildlife Protection Society Andhra Pradesh, represented by its Principal Secretary, Forests and Environment Department, Commissioner of Police, Minister for Forests and Environment, Chief Conservator of Forests and the Union of India represented by its Special Chief Secretary, Forests and Environment, New Delhi were impleaded as respondents. The prayer of the society was to issue writ of Mandamus, directing the respondents to constitute a special vigilance and enforcement cell for conducting a detailed report about the number of wild animals that were killed can be listed studies. The second Writ petition was by Visakha, a Society for Prevention of Cruelty to Animals was against the Government of Andhra Pradesh, Forest Department, the Chief Conservator of Forests, Chief Wildlife Warden and Curator of the Nehru Zoological Park with a prayer to issue a writ or a direction in the nature of Mandamus:

¹⁴ MANU/SC/0960/2002

¹⁵ AIR 2003 A. P 59.

“to enforce the provisions of the Wild life Protection Act, 1972 with all precautions. preventing the poaching of animals within their wildlife habitat; To conduct judicial enquiry into the killing of Tigris Sakhri in the Nehru Zoological Park, by a Judicial Officer; To take effective and stringent steps to nab the culprits who are responsible for the extinction of wildlife; To appoint experienced and skilled veterinarians in all the sanctuaries, zoos and national parks to look after the health and hygiene of the animals; To include wildlife courses in the veterinary colleges and the appointment of staff after giving training to take care of the animals and protect them from the mischievous, greedy and inhuman elements; and To constitute a full-fledged Wildlife Advisory Board with more non-officials as members who have interest in the protection of wildlife.

In *Ashok Kumar vs. State of Jammu and Kashmir and Others*¹⁶, a Public Interest Litigation (PIL) was filed in the J&K High Court by the petitioner seeking implementation of the provisions of J&K Wildlife (Protection) Act as well as Convention on International Trade in Endangered Species (CITES) which prohibits the import of 'shahtoosh' into India. The shahtoosh wool is derived from the soft undercoat of the Tibetan antelope also known as Chiru. Three to four such Chiru have to be killed to weave one shawl. Each shawl costs several thousand dollars in the international market. In 1977, the Government of India declared the said antelope as protected animal under Schedule I of the Wildlife (Protection) Act of India, 1972:

“thus hunting and trading in the products of all the Schedule I species was deemed to be illegal and punishable with heavy fines and imprisonment. In consequence of all this momentum to protect the said antelope and the PIL filed in 2002, the manufacture of Shahtoosh shawls was banned in the state of Jammu and Kashmir (J&K). Further the J&K Assembly passed an act, which placed the Tibetan antelope in Schedule I of the Jammu and Kashmir Wildlife (Protection) Act, the highest protection. The court observed that the weavers of shawls could take up alternative livelihoods such as weaving of pashmina, as continuous

¹⁶ Shahtoosh Case 2005

Shahtoosh weaving on large scale would make the species extinct and thus ending the trade in Shahtoosh permanently”.

In *T.N. Godavarman Thirumulpad vs. Union of India and Ors.*¹⁷ The question is about conservation, preservation and protection of forests and the ecology. When forest land is used for non-forest purposes, what measures are required to be taken to compensate for loss of forest land and to compensate effect on the ecology is the main question under consideration. Dealing with fundamental of decision analyses to achieve ecological, economic and social goals, it is said that what is to be broadly kept in view is:

“Ecological and environmental goals are important to forest managers, landowners, and their stakeholders, we need information about how decision alternatives affect such goals. These goals can be broadly stated as

- 1. Maintaining and enhancing forest productivity,*
- 2. Conservation of biological diversity,*
- 3. Protecting and enhancing environmental conditions.”*

In *T.N. Godavaraman Thirumulpad vs. Union of India*¹⁸ the Hon'ble Supreme Court observed that

“As a matter of preface, we may state that adherence to the principle of Sustainable development is now a constitutional requirement. How much damage to the environment and ecology has got to be decided on the facts of each case. While applying the principle of Sustainable Development one must bear in mind that development which meets the needs of the present without compromising the ability of the future generations to meet their own needs is Sustainable Development. Therefore, courts are required to balance development needs with the protection of the environment and ecology. It is the duty of the State under our Constitution to devise and implement a coherent and co-ordinated programme to meet its obligation of Sustainable Development based on inter-generational equity”.

¹⁷ MANU/SC/0596/2005

¹⁸ MANU/SC/0113/2008 :[(2008) 2 SCC 222]

6.5 PHASE- IV (2011-2020)

In the case of *T.N. Godavarman Thirumulpad vs. Union of India*¹⁹ the Hon'ble Supreme Court held that:

“Environmental justice could be achieved only if we drift away from the principle of anthropocentric to eco-centric. Many of our principles like sustainable development, polluter-pays principle, inter-generational equity have their roots in anthropocentric principles. Anthropocentrism is always human interest focused and non-human has only instrumental value to humans. In other words, humans take precedence and human responsibilities to nonhuman based benefits to humans. Eco-centrism is nature centered where humans are part of nature and non-human has intrinsic value. In other words, human interests do not take automatic precedence and humans have obligations to non-humans independently of human interest. Eco-centrism is therefore life-centered, nature-centered where nature includes both human and non-humans.”

In the case of *Centre for Public Interest Litigation vs. Union of India*²⁰ Court, while observing that:

the natural resources are the public property and national assets. “The State is empowered to distribute natural resources. However, as they constitute public property/national asset, while distributing natural resources the State is bound to act in consonance with the principles of equality and public trust and ensure that no action is taken which may be detrimental to public interest. Like any other State action, constitutionalism must be reflected at every stage of the distribution of natural resources. In Article 39(b) of the Constitution it has been provided that the ownership and control of the material resources of the community should be so distributed so as to best subserve the common good, but no comprehensive legislation has been enacted to generally define natural resources and a framework for their protection. Of course, environment laws enacted by Parliament and State Legislatures deal with specific natural resources i.e. forest, air, water, coastal zones, etc.”

¹⁹ MANU/SC/0122/2012, MANU/SC/0122/2012 : 2012 (3) SCC 277

²⁰[(2012) 3 SCC 1]

In the case before National Green Tribunal in **Rohit Choudhary vs. Union of India & Ors**²¹, the Applicant, resident of village Bokakhat, concerned about the ecology of the area and future of the Indian Rhino, Elephant and wide species of flora and fauna available in the Kaziranga National Park. He has approached:

“this Tribunal invoking jurisdiction under Section 14(1) of the National Green Tribunal Act, 2010, inter-alia, praying for appropriate directions to the Authorities to safe guard Kaziranga and its ecology. According to the Applicant, unregulated quarrying and mining activities permitted in and around the area of “Kaziranga National Park”, not only threatens the Eco-Sensitive Zone, but also the survival and existence of Rhinos, Elephants and other wildlife species. It is also submitted that Kaziranga National Park harbours the largest population of the Indian One Horned Rhinoceros and that its survival is critically dependent on the protection of the boundaries of the Kaziranga National Park as well as the adjoining areas including the Karbi-Anglong hills, from pollution.”

From a perusal of the **Animal Welfare Board of India vs. A. Nagaraja & Ors.**²² and the **Chief Secretary to the Govt., Chennai Tamilnadu and Ors. vs. Animal Welfare Board and Ors.**²³ judgements of the Supreme Court on Jallikattu ban, it appears that:

“the said argument (preservation of native cow breeds) was never brought to the Hon’ble Courts’ attention. As to why, there could be several reasons. One of the reasons cited has been the lack of awareness of this aspect of rural practices among the mainstream population and the lack of available scientific studies documenting it. Further, it has also been argued that those who are aware of these practices could neither approach the High Court/ Supreme Court nor create awareness among others owing to their lack of economic strength.”

The National Green Tribunal enacted in 2010.²⁴ Since the National Green Tribunal established it play a very significant role in the protection of environment and conservation of biodiversity across the nation. An analysis of the NGT’s role over the

²¹ Available at: <http://www.indiankanoon.org> , last visited on November15, 2020

²² [(2014) 7 SCC 547]

²³ 2016 (12) SCALE 334

²⁴ The National Green Tribunal Act, 2010 (Act 19 of 2010).

seven years suggests that it has been progressive in its approach towards environmental protection in general and conservation of biodiversity.

In the case of *Smt. Mithlesh Bai Patel Vs. State of Madhya Pradesh*²⁵ this Tribunal held that:

“While the objective of granting PL for mining is for systematic development of minerals which forms part of the development process of the country, it is the duty of the Central Government and the State Government to take steps to protect the environment and maintain the ecological balance and prevent damage that may be caused by prospecting and mining operations.”

In the case of *Vinod Raichand Jain v. Union of India & Ors. in Application No. 90 of 2014* filed before the Western Zone Bench of this Tribunal at Pune, it was observed that:

“in our view, expansion of State Highway is an important project in public interest, which cannot be stopped, only because there are trees, which may obstruct the project when alternative arrangement for plantation/afforestation can be made.”

In *M. Saravanan vs. The Secretary to Government of Tamil Nadu, Environment and Forest Department and Ors*²⁶, the applicant has filed the application against the alleged illegal widening of 35 km stretch of road from Thenpalani to Highways in Then District and to stop further construction of the road. It is the case of them applicant that Megamalai Wildlife Sanctuary is situated in the Western Ghats in Then district of Tamil Nadu which is rich in wildlife. National Green Tribunal Southern Zonal Bench, Chennai observed:

“no doubt such linear projects particularly the stretches of the road passing through Wildlife Sanctuaries and Ecologically Sensitive Areas to some extent cause negative impact on the protection of biodiversity, but one has to take a holistic approach and basic minimum needs of local inhabitants cannot be sacrificed.”

²⁵ MANU/GT/0027/2014

²⁶ MANU/GT/0112/2016

In *S. Venkateksh vs. Union of India and Ors*²⁷ before the national green tribunal Southern Zone Bench, Chennai alleging that:

“the widening/expansion of East Coast Road (ECR)is done without proper study or scrutiny and it will have immense adverse impact on the coastal ecosystems, the application is filed under Section 14 of the National Green Tribunal Act. In the facts and circumstances of the case, board hold that the applicant is not entitled to get any direction to respondents not to widen the ECR as proposed or to demolish/remove the widened portion of the road or to restore it to the original position. At the same time, find it necessary to issue the directions in order to avoid any adverse impact on the CRZ as well as environment.”

In *Diwan Singh and Ors. vs. Union of India and Ors.*²⁸ before The National Green Tribunal Principal Bench, New Delhi Application has been filed seeking restoration of water bodies in Dwarka, New Delhi, which are in need of restoration/revival and protection. It was observed that:

“Water bodies and wetlands play an extremely crucial role in ground water recharge, maintenance of aquatic biodiversity, provide habitat for avifauna as well as aquatic life, help regulate temperature and humidity in the locality, and thereby ameliorate the severity of extreme temperature and also provide drinking water during critical months to the wild life. There is a constitutional mandate on the State and its machinery to protect the natural including forest, lakes, rivers and wildlife and to have compassion for living creatures. Recently Sri Ravishankar’s Art of Living held the “World Cultural Festival” on the Yamuna floodplains in Delhi causing much environmental damage to the region, an expert committee, set up by the National Green Tribunal to quantify damage, has come out with its findings. According to the 31-page report submitted to the tribunal, the damage is so severe that it will take another 10 years and nearly Rs 42.02 crore for the floodplains to recover from it. The expert panel states in the report that the entire floodplain region used for the

²⁷ MANU/GT/0166/2016

²⁸ MANU/GT/0130/2016

main event site, especially the area where the grand stage was erected, has been completely destroyed, causing possibly irreversible biodiversity loss. The NGT had set up the seven-member expert panel last year headed by Shashi Shekhar, the secretary of the Ministry of Water Resources. It comprised senior scientists and environmental experts. The panel's report includes an analysis of qualitative changes before and after the program. According to the expert committee, large-scale work needs to be undertaken to rehabilitate the Yamuna floodplains."²⁹

For the first time since the enactment of the Biological Diversity Act, 2002, more than a decade and a half ago, States have now been forced to look into its implementation. The National Green Tribunal (NGT) had asked for action against top State officials who had failed to respond to an application filed before the tribunal for effective implementation of the act. The act calls for the protection and management of biodiversity through the setting up of biodiversity management committees for managing biodiversity, and managing peoples' biodiversity registers to document biodiversity in each district. Right to Information responses from 15 States reveal the status of implementation of the act. While these States have more than 61,000 panchayats or municipalities, only 14 per cent of PBRs have been set up.³⁰

Taking strong exception to officials of several states and UTs not appearing before it during proceedings on protection of biodiversity, the National Green Tribunal has issued bailable warrants against their Resident Commissioners here. The green panel was carrying out proceedings on a plea alleging that various states and union territories have "failed" to pay attention to the unique biodiversity of the country and sought implementation of provisions of Biological Diversity Act, 2002 and Biological Diversity Rules, 2004. A bench headed by NGT Chairperson Justice Swatanter Kumar issued bailable warrant against the Resident Commissioners of Gujarat, Karnataka, Manipur, Mizoram, Odisha, Punjab and Tripura for not appearing before it despite issuance of notice. It also issued warrants against the officers of Chandigarh, Andaman & Nicobar, Lakshadweep and Puducherry.³¹

²⁹ Available at- <https://thewire.in/124437/aol-yamuna-floodplains/>, last visited on November 15, 2020

³⁰ Available at- <http://www.thehindu.com>, last visited on November 15, 2020

³¹ Available at- <http://www.business-standard.com>, last visited on November 15, 2020

In *Satara Municipal Council Vs. Ministry of Environment, Forests and Climate Change and Ors.*³² before The National Green Tribunal Western Zone Bench, Pune:

“one of such unique case where this Tribunal was required to invoke its inquisitive jurisdiction in order to reassert the well settled principles of environmental jurisprudence namely; ‘precautionary principle’ and ‘Doctrine of public trust’ to adequately address issues related to environmental sustainability of proposed reconstruction of Kas dam, located in close proximity of World Heritage site of Kas plateau’ which is also an environmentally eco-sensitive zone.”

Therefore, in nutshell, it can be said that the Supreme Court as well as the national green tribunal has played a vital role, in reconciling the issues of development versus conservation especially in a reference to exploitation of natural resources which will go a long way in the maintenance of ecological balance as well as preservation of different species on this earth. Simultaneously the Court has also appreciated the efforts made by the people spirited persons to bring before the court such major issues which have direct impact on the environment and ecological balance. Unlike the Supreme Court, the NGT does not routinely favor infrastructure projects, nor does it cause a delay in resolving the cases before it. It had redefined the role of environmental experts and the criteria to select such experts. It has been largely successful in implementing its orders, which usually relate to staying environmental clearances. The regional green tribunals seem even more active and aggressive than the NCT in Delhi, as the regional judges are fearless and have no ambition for national positions. Finally, the NGT seems to have encouraged a number of lawyers all over India to specialize in environmental law. The analysis of environmental judgments and their implementation from 1980 to 2019 suggests that the Indian Supreme Court has for the most parts been very active in challenging and directing authorities to implement environmental rules and norms.

On the importance of ‘Right to Information in the Environmental Governance’ the Supreme Court has recently said in the case of *Mr. G K Krishnan vs. Ministry of Environment and Forests*³³, and held that:

“With the advent of the RTI Act, citizens have access to a variety of information held by the government and its instrumentalities. It includes

³² MANU/GT/0010/2017

³³ Available at: <http://www.indiankanoon.org.>, last visited on November 15, 2020

information impacting the environment such as impact assessment reports, clearances, permissions/licenses provided by the concerned ministries, etc. This has enabled citizens to knowledgeably understand the environmental issues affecting our country. Citizens and civil society, who are actively pursuing the objective of protecting the biodiversity of ecologically sensitive regions, flora, fauna, and endangered species, now have access to information which allows them to obtain a true picture of our ecosystem.”

Thus the Indian Judiciary has made significant contributions to ‘good governance’ in relation to Environment. The words of **Justice Frankfurter** are apt, quoting “An onerous obligation we owe to posterity clean air, clean water, greenery and open space. They ought to be elevated to the status of birth right of every citizen.”

Recently, The High Court of Uttarakhand a petition *Divya Pharmacy vs Union of India and Others*³⁴ has been filed and the Petitioner’s challenged that the UBB cannot raise a demand, under the Head of “Fair and Equitable Benefit Sharing” (FEBS), as the Board neither has the powers nor the jurisdiction to do that and, secondly, the petitioner in any case is not liable to pay any amount or make any kind of contribution under the head of ‘FEBS’. This argument of the petitioner is based on the interpretations of “certain provisions” of the statute.

The Biological Diversity Act, 2002 is a 2002 Act of the Parliament, with three basic objectives:

- (A) Conservation of Biological Diversity.
- (B) Sustainable use of its components.
- (C) Fair and equitable sharing of the benefits arising out of the use of biological resources.

In this writ petition, court held that, *we are presently only concerned with the third objective which is fair and equitable benefit sharing (from hereinafter referred to as FEBS). At this juncture, it must be stated that regulating an activity in form of demand of a fee is an accepted practice recognised in law. Therefore, in case the SBB as a regulator, demands a fee in the form of FEBS from the petitioner when the petitioner is admittedly using the biological resources for commercial purposes, it cannot be said that*

³⁴ (Writ Petition (M/S) No. 3437 of 2016) on 21 December, 2018

it has no powers to do so. As far as vesting of this power through a Regulation by NBA is concerned, we must take resort to Section 21(2) (f) and sub-section (4) of Section 21, already referred above. Under sub-section (2) of Section 21, NBA has powers, subject to any regulation, to “determine the benefit sharing”.

What is Fair and Equitable Benefit Sharing cannot be looked through the narrow confines of the definition clause alone. The concept of FEBS has to be appreciated from the broad parameters of the scheme of the Act and the long history of the movement for conservation, together with our international commitments in the form of international treaties to which India is a signatory. Once we do that, we find that Under Section 2(f) and sub-section (4) of Section 21, the NBA has got powers to frame regulations in order to give payment of monetary compensation and other non- monetary benefits to the benefit claimers as the National Biodiversity Authority may deem fit, in form of Regulations and the State Biodiversity Board in turn has powers and duties to collect FEBS under the regulatory power it has under Section 7 read with Section 23 (b) of the Act.

The court has observed that *“This Court is of the opinion that SBB has got powers to demand Fair and Equitable Benefit Sharing from the petitioner, in view of its statutory function given under Section 7 read with Section 23 of the Act and the NBA has got powers to frame necessary regulations in view of Section 21 of the Act. The challenge of the petitioner to the validity of the Regulations fails. This Court holds that the Regulations 2, 3 and 4 of the Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014 only clarifies and follows what is there in the Act and it is **intra vires** the Act.”*

6.6 CONCLUSION

We find that in this chapter our Indian judiciary has been actively contributed of development of Fair and Equitable Benefit Sharing. The Courts in India, while interpreting the Constitutional provisions, started right-based approach in 1990’s for the protection of wholesome environment including the biological resources. The Indian judiciary, the legal value of Fundamental Rights and Directive Principles jurisprudence has constantly grown up in the Indian Constitutional set-up.

In the first phase one important case regarding the protecting environment and biodiversity conservation. The first indication of the right to a wholesome environment may be traced to the case of *Rural Litigation and Entitlement Kendra, Dehradun vs.*

State of Uttar Pradesh which is also known as *Dehradun Quarrying Case*, “Whereby treating a letter, concerning allegations of illegal limestone mining in the Mussoorie-Dehradun region which were devastating the fragile ecosystems in the area, as writ petition, the Supreme Court passed several orders for the protection of the region. But none of these orders articulate the fundamental right to a healthful environment.

In the second phase some important case *Subhas Kumar v. State of Bihar*, Justice K.N. Singh observed that “The right to live is a fundamental right under Article 21 of the Constitution, and it includes the right of enjoyment of pollution-free water and air for full enjoyment of life”. From this case it may be said that the Court started the right based approach to the wholesome environment.”

In the case *Chameli Singh v. State of Uttar Pradesh*, the Court held that the “While deriving the right to shelter under Article 21 the Supreme Court held that this right of shelter would include “the right to decent environment and a reasonable accommodation to live in”.

The Supreme Court while expanding this theme in a town planning case, *Virender Gaur vs. State of Haryana*, observed that: Article 21 protects the right to life as a fundamental right. Enjoyment of life...including the right to live with human dignity encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation, without which life cannot be enjoyed. Any contra act or actions would cause environmental pollution including ecological, air, water pollution etc. should be regarded as amounting to violation of Article 21. Therefore, hygienic environment is an integral facet of right to healthy life and it would be impossible to live with human without a human and healthy environment.

In the third phase very important case of *T.N. Godavarman Thirumulkpad v Union of India*, (popularly known as *Forest Conservation case*), “The Supreme Court Issued interim directions that all the on-going activities within any forest in any State throughout the country without the permission of the Central Government must be stopped forthwith. Running of saw mills including veneer or plywood mills within the forests was also stopped. Felling of trees in the State of Arunachal Pradesh was totally banned in certain forests whereas in other forests it was suspended in accordance with the working plan of the State Government. Movement of cut trees and timber from any of the seven North-Eastern States to any other State was completely banned. The Court

issued directions to stop felling of trees in other States such as the State of J&K, Himachal Pradesh and Tamil Nadu, with a view to protect and preserve the forests. The Supreme Court modified some of these directions subsequently. The Court called for the comprehensive statement of all the States about their past activity and their future program to tackle the problem of degradation and degeneration of forests.”

Recently, The High Court of Uttarakhand a petition *Divya Pharmacy vs Union of India and Others* has been filed and the Petitioner’s challenged that the UBB cannot raise a demand, under the Head of “Fair and Equitable Benefit Sharing” (FEBS), as the Board neither has the powers nor the jurisdiction to do that and, secondly, the petitioner in any case is not liable to pay any amount or make any kind of contribution under the head of ‘FEBS’.

The court has observed that “*This Court is of the opinion that SBB has got powers to demand Fair and Equitable Benefit Sharing from the petitioner, in view of its statutory function given under Section 7 read with Section 23 of the Act and the NBA has got powers to frame necessary regulations in view of Section 21 of the Act. The challenge of the petitioner to the validity of the Regulations fails. This Court holds that the Regulations 2, 3 and 4 of the Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014 only clarifies and follows what is there in the Act and it is **intra vires** the Act.*”

For the issues related environmental dealing special tribunal established by Indian Parliament. The National Green Tribunal (NGT) Act has been enacted to provide for effective and expeditious disposal of the cases involving multidisciplinary issues relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right, redress and remedy, and to develop National laws regarding liability and compensation for the victims of pollution and other environmental damage. After years of deliberation, the NGT Bill was introduced in the Indian Parliament on 29 July 2009. The Bill provided for the establishment of a Green Tribunal, which will offer effective and fast redersal of cases related to environment protection and conservation of natural resources and forests.



CHAPTER-VII
CONCLUSION
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7.1 CONCLUSION

Biodiversity is an extremely important part of life on the Earth. It is not only the variety of living organisms on our planet, but also the interdependence of all these living things, including humans. It thus creates and maintains ecological systems, the most recognizable of which are Earth's biomes, which can be divided into the broad categories of Forests, Tundra, Aquatic, Grasslands, and Deserts.

It is very well recognized by various civilizations during the early centuries and later by scientific means, that the need of biodiversity cannot be ignored in development paradigms. This realization has been attached to various socio-cultural issues of these human civilizations. Most of the plant species are used in traditional and modern medicine. Our food and energy security strongly depends on biodiversity and so does our vulnerability to natural hazards such as fires and flooding. Biodiversity loss has negative effects on our health, material wealth and it largely limits our freedom of choice.

It is crucial for the functioning of ecosystems which provide us with products and services without which we cannot live. Oxygen, food, fresh water, fertile soil, medicines, shelter, protection from storms and floods, stable climate and recreation - all have their source in nature and healthy ecosystems. But biodiversity gives us much more than this. We depend on it for our security and health; it strongly affects our social relations and gives us freedom and choice.

Biodiversity is extremely complex, dynamic and varied like no other feature of the Earth. Its endless plants, creatures and organisms physically and chemically join together the air, geo-sphere, and hydrosphere into one natural framework which makes it possible for millions of species, including people, to exist. Many of these deal with various aspects and parts of bio diversity, starting with the Convention relating to the Preservation of Fauna and Flora in Their Natural State, 1933. But the first concerted effort for the conservation of biodiversity at international level figured in the discussions at the U.N Conference on the Human Environment held at the Stockholm in 1972. Principle 4 of the Declaration is guiding towards protection of biodiversity as it provides for 'safeguard and wisely manage the heritage of wildlife

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and its habitats'. Biodiversity can broadly be divided at three levels i.e. genetic diversity, species diversity and ecosystem habitat diversity.

The importance of biodiversity is essentially threefold: first, biodiversity provides an actual and potential source of biological resources including food pharmaceutical and other material values which support fisheries, soil conditions and parks; second, biodiversity contributes to the maintenance of biosphere in a condition which supports human and other life and third, biodiversity is worth maintaining for non-scientific reason of ethical and aesthetic value.

The question arise of what contribution a given area makes to global biological diversity, it is very different from the question of what contribution it makes to local, regional, national or international biological diversity. This is because, even using a relatively simplified measure, any given area contributes to biological diversity in at least three different ways through its richness in numbers of species, through the endemism of these species.

Access and benefit-sharing refers to the way in which genetic resources may be accessed and how the benefits that result from their use are shared between the people or countries using the resources and the people or countries that provide them. The governments or civil society bodies are providers of genetic resources, which are can include private land owners and communities within a country, who are entitled to provide access to genetic resources and share the benefits resulting from their use.

The benefits to be shared can be monetary, such as sharing royalties when the resources are used to create a commercial product, or non-monetary, such as the development of research skills and knowledge. It is vital that both users and providers understand and respect institutional frameworks such as those outlined by the CBD and in the Bonn Guidelines.

Access and benefit-sharing alludes to the way in which hereditary assets may be gotten to, and how clients and suppliers reach understanding on the reasonable and impartial sharing of the benefits that might result from their utilization.

The Convention on Biological Diversity (CBD) sets out provisions which are governed to access and benefit-sharing.

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Under these rules, the governments of countries have two key responsibilities:

1. To put in place systems that facilitates access to genetic resources for environmentally sound purposes.

2. To ensure that the benefits resulting from their use are shared fairly and equitably between users and providers. Users of genetic resources include research institutes or companies seeking access for basic scientific research or product development. To gain access, users must first get permission (known as prior informed consent or PIC) from the provider country. In addition, the provider and the user must negotiate an agreement (known as mutually agreed terms or MAT) to share the resulting benefits equitably.

Providers of genetic resources: States have sovereign rights over natural resources under their jurisdiction. They are obligated to put in place conditions that facilitate access to these resources for environmentally sound uses. Providers agree terms, which include PIC and MAT, for granting access and sharing benefits equitably. Laws within the provider country may entitle others, such as ILCs, to also negotiate terms of access and benefit-sharing. The participation of ILCs is necessary in instances where traditional knowledge associated with genetic resources is being accessed.

Users of genetic resources: From the basic research to the development of new products, they seek access to genetic resources for a wide range of purposes. Users are responsible for sharing the benefits derived from genetic resources with the providers. They are a diverse group, including botanical gardens, industry researchers such as pharmaceutical, cosmetic industries and agriculture, collectors and research institutes, etc.

National Focal Points: To facilitate access, users need a clear and transparent process that details who to contact and what the requirements and processes are in provider countries in order to gain access. National Focal Points are responsible for providing this information.

Competent National Authorities (CNAs): CNAs are bodies established by governments and are responsible for granting access to users of their genetic resources, and representing providers on a local or national level. National implementation measures establish how CNAs work in a given country.

The access and benefit sharing procedures specifically stipulated under the *Biological Diversity Act, 2002* are in line with the provisions of international laws and

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policies, particularly Convention on Biological Diversity and the Bonn Guidelines. The entire procedures as described in the Act can contribute substantially to facilitate an international regime of Access and Benefit Sharing on genetic resources and traditional knowledge. Human societies across the globe derive nutritional, economic, aesthetic and cultural value from biological diversity. Much of that biological diversity is currently threatened by human activities, particularly through alteration of landscapes and ecosystems associated with agriculture, urban development and management of waterways.

Thus, the reason need to formulate an appropriate system for Prior Informed Consent and Fair and Equitable Benefit sharing in respect of biological material and traditional knowledge of use of such biological material to enable the country and local communities respectively to derive economic benefits for providing access.

The United Nations Conference on Environment and Development, Convention on Biological Diversity, Cartagena Protocol on Bio-safety, Nagoya Protocol on Access to Benefit Sharing. These measures protect biosphere as a whole and are indirectly helpful in the conservation and protection of biological diversity.

Access and benefit sharing has been a key feature of the Convention on Biological Diversity since its signing in 1992. Within the context of access and benefit sharing, prior informed consent as a condition of access to biological resources has been an important concern for many signatories. Access and Benefit Sharing (ABS) has been developed by ICIMOD with support from the German Federal Ministry for Economic Cooperation and Development (BMZ) through German Technical Cooperation (GTZ) to help increase the capability of local level staff of organisations and others involved in developing the capacity of indigenous, marginalised, and other local communities in the bio-prospecting process. Some countries in the Hindu Kush-Himalayan region, like Bhutan and India, have developed and enforced ABS legislation, while others like China have accommodated it within the existing legal framework through legal amendments. The remainder has draft legislation that they are in the process of promulgating or have only just embarked on developing the approach.

The Convention on Biological Diversity, 1992 sometimes called the “CBD” for short. This Convention was adopted by balancing the ‘common heritage’ and ‘national sovereignty’ principles. The broad agenda envisioned under the Convention

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are sustainable use, fair and equitable sharing of benefits of genetic resources which in turn obligate the member states to swing into action for devising ABS model.

The word “biodiversity” was first coined by Walter G. Rosen in 1986. The biosphere comprises complex collections innumerable organisms, known as the biodiversity, which constitute the vital life support for survival of human race. Biological diversity, abbreviated as biodiversity, represent the sum total of various life forms such as unicellular fungi, protozoa, bacteria, and multi cellular organisms such as plants, fishes, and mammals at various biological levels including gens, habitats, and ecosystem.

The Convention on Biological Diversity, 1992 of Article 1 deals objectives of this convention as such is Firstly- Global Conservation of Biodiversity, Second- Sustainable use of components of the Biological resources, and Third- The fair and Equitable sharing of Benefits arising from the utilisation of Genetic resources.

Benefit sharing is a relatively new notion which has been developed as a consequence of the rapidly changing paradigm concerning claims over biological and genetic resources, traditional knowledge and the strengthening of intellectual property rights to accommodate life patents. Intellectual Property Rights reflects an inherent tension between the strong desire to promote and reward creative energy and the desire to make the fruits of that creativity available to the public. Conservation of biodiversity is necessary to economic growth.

The conservation of biological diversity, this Convention to be pursued in accordance with its relevant provisions, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into relations of all rights over those resources and to technologies, and by appropriate funding.

“Ex-situ conservation” means the conservation of components of biological diversity outside their natural habitats.

“In-situ conservation” means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their

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natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

“Sustainable use” means the use of components of biological diversity in such manner and at such rate that does not lead to the long-term decline of the biological diversity thereby maintaining its potential to meet the needs and aspirations of present and future generations;

“Access to and transfer of technology” According to Article 16 of CBD each Contracting Party, be familiar with that technology includes biotechnology, and that both the access to and transfer of technology among Contracting Parties, which are essential elements for the attainment of the objectives of this Convention.

Access to Genetic Resources and Fair and Equitable Sharing of Benefits- The Access to genetic resources, fair and equitable sharing of benefits from the utilization of biological resources and traditional knowledge become an important scheme after the coming of Convention on Biological Diversity (CBD) in 1993. The preamble in CBD refers to ‘benefit sharing’ in the context of indigenous peoples. It specifically identify “the desirability of sharing equitably benefits arising for the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components”. The responsibility to share benefits arises when indigenous intellectual efforts are effectively accessed and employ in some way. The preamble doesn’t demand any obligations but under Article 8 (j) which determines that parties should- preserve, maintain and respect the knowledge, innovations and practices of local and indigenous communities and represent way of traditional life-styles related to the conservation and sustainable use of biological diversity and to promote their wide application with the sanction and participation of the holders of such knowledge, innovations and practices and promote the equitable sharing of the benefits drive from the utilization of such knowledge, innovations and practices and encourage.

The Convention provides the principles and rules for the access to genetic resources and fair and equitable sharing of benefits. It acknowledged the sovereignty of the states over the natural resources, so, provides ability to states to regulate how, when, where and under what conditions genetic resources can be used and refers to mutually agreed terms and condition and prior informed consent (PIC), both expressly

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through contracts. Such agreements and contracts are between the provider state, individuals, ex-situ centers, communities and users of resources. The Convention acquires genetic resources out of the commons through a particular form of privatizing them under state protection. Article 15.7 expressly states that each contracting party shall obtain legislative as well as administrative or policy measures with the intend of sharing in a fair and equitable way the outcomes of research and development and the benefits arising from the commercial and other use of genetic resources with the other Contracting party providing such resources. Such sharing shall be upon mutually agreed terms only. Therefore the provisions of Article 15 are seen to permit possible claims being made on the financial profits or kind arising from the exploitation and development of such resources by companies based in developed country parties.

The International Treaty on Plant Genetic Resources for Food and Agriculture, also known as the International Seed Treaty, is a comprehensive international agreement in sync with Convention on Biological Diversity. The Treaty was approve in 31st session by *FAO Conference* in November and it came into being in 23 of December 2004.

The Treaty seek to guaranteeing food security through the conservation, exchange and sustainable utilization of the world's plant genetic resources for food and agriculture; the fair and equitable benefit sharing occur from its use; free right to use to genetic resources, unrestricted by intellectual property rights; participation in related policy discussions and decision making; use, save, buying and exchange seeds, subject to laws of nation; acknowledging the past, present and future contributions of farmers in all region of the world, particularly to those of origin and diversity, in improving, conserving and making available. Each Party shall make sure of the conformity of its laws, regulation and procedures with its obligations as provided in the Treaty.

Each Party to Contract subject to national legislation and in collaboration with other Contracting Parties shall ought to promote an integrated approach to the conservation, exploration and sustainable use of plant genetic resources for food and agriculture; promote the collection of plant genetic resources for food and agriculture and related associate information on those plant genetic resources that are under threat or of potential use; support or promote farmers and native communities efforts to deal

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with and conserve on farm their plant genetic resources for food and agriculture; promote *in situ* Conservation of wild plants and wild crop relatives for food production, counting in protected areas, by supporting local communities, monitor the preservation of the viability, genetic integrity and degree of variation of collections of plant genetic for food and agriculture.

The Contracting Parties shall also develop and maintain suitable policy and legal measures that promote the sustainable utilization of plant genetic resources for food and agriculture. The sustainable use of plant genetic resources for food and agriculture may comprise of measures like following fair agricultural policies that promote the development and maintenance of diverse farming systems that improve the sustainable use of agricultural biological diversity and other natural resources; amplification the research which enhances and conserves biological diversity and other natural resources, broadening the genetic base of crops and increasing the range of genetic diversity available to farmers; by maximizing intra and inter specific variation for the profit of farmers; encourage plant breeding efforts which, particularly in developing countries strengthen the capacity to develop varieties particularly modified to social, economic and ecological conditions, including marginal regions; supporting the wider use of diversity of varieties and species in on-farm management, conservation and sustainable use of crops and creating links to plant breeding and agricultural development in order to reduce crop vulnerability and genetic erosion and promote increased world food production compatible with sustainable development.

Each Contracting Party shall, as suitable, incorporate into its agriculture and rural development policies and programmes, activities referred to in Articles 5 and 6, and cooperate with other Contracting Parties, directly or through the FAO and other relevant international organizations, in the conservation and sustainable use of plant genetic resources for food and agriculture.

The Nagoya Protocol is an international agreement adopted by the members to the convention on biological diversity in its 10th meeting, on 29 October 2010, in Nagoya on Access to Genetic Resources and the Fair and Equitable sharing of benefits from their utilization. The objective of Nagoya Protocol is almost the same as the third objective of the Convention on Biological Diversity. It chains the implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising from the use of genetic resources and traditional knowledge.

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The Access and Benefit-sharing is a concept developed to provide platform for exchanging information on access and benefit-sharing as established by Article 14 of the Protocol. It's a part of the Clearing-House of the Convention established under Article 18, paragraph 3 of the Convention. The Clearing-House of ABS is a main tool for aiding the implementation of the Nagoya Protocol, by improving the legal certainty and transparency on measures for access and benefit-sharing, and for supervising the utilization of genetic resources through the internationally recognized certificate of fulfillment. By hosting related information in regarding to ABS, the Clearing-House of ABS will provide opportunities for involving users and providers of genetic resources and associated traditional knowledge.

The treaty body for the TRIPS Agreement is the Council made under the same, which is an intergovernmental body serviced by the WTO Secretariat in Geneva, Switzerland.

The above Agreement of section 5 concerned to patents provision such as-
Article 27 Patentable Subject Matter

1. Subject to the provisions of paragraphs 2 and 3, 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. Subject to paragraph 4 of Article 65, paragraph 8 of Article 70 and paragraph 3 of this Article, patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.

2. Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect ordre public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.

3. Members may also exclude from patentability:

(a) Diagnostic, therapeutic and surgical methods for the treatment of humans or animals;

(b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of

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plant varieties either by patents or by an effective sui generis system or by any combination thereof. The provisions of this subparagraph shall be reviewed four years after the date of entry into force of the WTO Agreement.

The TRIPS requires that patents may only be granted to inventions that are new, involve an inventive step and are capable of industrial application. Under this Agreement, patents are a public authorization that grants to the owner the right to preclude others from the acts of making, using, offering for sale, selling or importing a protected product or process for at least 20 years. WTO Members may define the respective criteria of novelty, inventive step and industrial application in light of their policy priorities and needs, but may not offer patent protection for less than 20 years. Various exceptions to this right are recognized both in the TRIPS Agreement as well as through WTO Dispute Settlement decisions and widely recognized national judicial and administrative practices. Petty patents are not governed by the TRIPS Agreement.

Plant variety protection is not governed directly by the TRIPS Agreement. Among its many functions, the TRIPS Council periodically reviews certain substantive provisions of the TRIPS Agreement.

The interface between the TRIPS Agreement and the CBD was first examined by the TRIPS Council in its 1999 review, which allows governments to exclude few inventions from patenting, i.e. plants, animals and “essentially” biological processes. It was at this time that developing countries argued for the need to re-examine the implications of allowing the so-called ‘patenting of life’, including examining the impact of patenting genes, viruses and other living organisms. In undertaking this work, the TRIPS Council shall be guided by the objectives and principles and shall take fully into account the development dimension”. The WTO’s work on TRIPS has thus generally focused on the question of whether or not there is a conflict between the two treaties, and whether an amendment of the TRIPS Agreement is necessary to ensure that these treaties are implemented in a ‘mutually supportive’ manner.

Under this Agreement requests Member States to require patent applicants to disclose the invention in a manner adequately clear and complete for the invention to be carried out by a person skilled in the art. While this debate had been framed as a CBD issue, neither the CBD nor the Nagoya Protocol requires mandatory disclosure of origin. To the extent that the Nagoya Protocol requires effective checkpoints to ensure implementation, however, a disclosure of origin or source requirement could

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potentially be considered as a mechanism to assist national competent authorities should IP offices be designated as a checkpoint.

The technologies that have arisen in research and development of genetic resources some in place for more than two decades highlight, more than ever before, the limitations of frameworks on access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation, particularly with regard to fairness and equity in sharing of monetary benefits. The principles of sovereignty, prior informed consent, and mutually agreed terms, as enshrined in the Convention on Biological Diversity, are being challenged as to their appropriateness in responding to an increasingly, but not wholly new, disruptive technological paradigm. With information extracted, disembodied, or dematerialised from genetic resources, questions arise regarding the relevance of biological material in relation to and as the vehicle for that disembodied information. The importance of biological materials may vary from sector to sector.

Under the CBD of ABS Negotiations Fair and equitable sharing of benefits arising from the use of genetic resources is one of the three primary objectives of the CBD, in adding together to the conservation of biological diversity and sustainable use of its components, each being linked to and deriving strength from the other. The principles underlying these goals are those of equity and balance. They link traditional conservation efforts to the economic goal of sustainable use of biological resources.

Our country is having very long history of conservation and sustainable use of the natural resources, but due to the transferred agriculture farming (shifting cultivation), industrial and development activities in couple of centuries by people, the number of species came at alarming rate which posed severe threats to biological resources of the country. That too exploitation of the environmental resources are of uncontrolled in nature which resulted into inequality in the access to the natural resources particularly between the advanced and under developed countries. To check the unequal exploitation of the natural resources necessitate the strong mechanism for the equal access benefit sharing. The access and benefits sharing of biological resources need to be control and protect by law. After one decade, the Convention on Biological Diversity, 1992 the Indian parliament has passed an Act to protect and control of Biodiversity known as the Biological Diversity Act, 2002.

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The Act provides a legal mechanism for establishing sovereign rights over the Indian biodiversity and its conservation, protection against misappropriation, regulation of access and sustainable use of biodiversity and associated knowledge. For this purpose the Act provided the national, state and local level mechanisms for implementation of the Act.

The Act insists India's Obligation to the United Nations Convention on Biological Diversity (CBD) signed at Rio-de-Janeiro and aimed to provide for the:

- a. Conservation of biological diversity,
- b. Sustainable use of its components, and
- c. Fair and equitable sharing of benefits arising out of utilization of genetic resources.

The Act defines 'Biological Diversity' to mean *'the variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species or between species and of eco-systems'*. And the 'Biological Resources' means *'plants, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but does not include human genetic material'*.

The Act mainly focuses on the regulation of access to biological diversity and genetic resources. So, Act envisaged various measures for the conservation and sustainable utilization of the genetic resources.

The most important measures adopted by the Act focuses on the access to biological resources and related issues. The Act stipulates clear norms for access to biological resources and traditional knowledge. This is due to the fact that the Act is in part a response to significant concerns over bio-piracy in the second part of the 1990's and in part a response to other developments such as the adoption of the TRIPS Agreement. Concerning access to biological resources the Act further deals mainly the question of access by foreigners. It proposes to put stringent limits on access to biological resources or related knowledge for all foreigners, whether from developing or developed countries. The Act provides three ways of access to biological resources;

- a. Access to biological resources and traditional knowledge to foreign citizens, companies and non-resident Indians based on the 'prior approval of the National Biodiversity Authority (NBA)'.

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- b. Access permits to Indian citizens companies, associations and other organizations registered in India on the basis of 'prior intimation to the State Biodiversity Board' concerned.
- c. Exemption of prior approval or intimation for local people and communities, including growers and cultivators of biodiversity, and Vaidis and Haqims, practicing indigenous medicines.

The key procedures to be followed for access to biological resources and traditional knowledge are dealt with under Rule 14 of the Biodiversity Rules 2004. These provisions are laid down to ensure effective, efficient and transparent access procedures through written agreements and applications in prescribed formats.

The makes special reference to intellectual property rights in the management of biological resources but does not directly address the subordination of intellectual property rights to the goals of Biodiversity Convention as mandated by Article 16 of the Convention.

The Biological Diversity Act also seeks to address the questions of the rights of the holders of the local knowledge by setting up a system of benefit sharing. The Act governs access and benefit sharing (ABS) through a three tier system, i.e., National Biodiversity Authority (NBA) at the national level, the State Biodiversity Board (SBB) and Biodiversity Management Committees (BMCs) at local levels. The benefit-sharing scheme is innovative in that it provides that the authority can decide to grant joint ownership of a monopoly intellectual property rights to the inventor and the authority or the actual contributor if they can be identified. The Act under Article 21 also provides the other forms of benefit sharing which are progressive insofar as they prioritize the non-financial benefits such as the transfer of technology, which are more long lasting than financial compensation.

The Ministry of Environment, Forest and Climate Change (MoEFCC) as the nodal ministry for the implementation of CBD in India initiated action for preparation of NR6 in early 2017 in association with the National Biodiversity Authority (NBA) and support from Global Environment Facility (GEF) through United Nations Development Programme (UNDP). The process began with extensive consultations with the multiple stakeholders at national and state levels. The stakeholders included representatives of the Central Government, state governments, State Biodiversity Boards (SBBs), other relevant government organisations, academia, civil society organisations, industry and business, domain experts, individuals and groups of

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people. A brochure comprising information on India's National Biodiversity Action Plan (NBAP), National Biodiversity Targets (NBTs) and their linkages with Aichi Biodiversity Targets and Sustainable Development Goals spelling out the requirements of national reporting was prepared and widely circulated to provide background information to seek relevant inputs from stakeholders. The brochure initially prepared in English was translated into eight different Indian languages to reach the largest possible number of stakeholders.

A dedicated web-portal for receiving inputs online for NR 6 further facilitated wider outreach to stakeholders. Six Regional Consultations covering all States were organised between July-September 2017.

The Indian Judiciary has made significant contribution to the development of environmental jurisprudence by resorting to international conventions and agreement. The Indian judiciary many a times has taken recourse to the international principles regarding environmental protection to overcome administrative indifferences and fix the lacunae in the existing legislation.

With the activist approach of the Indian judiciary, the legal value of Fundamental Rights and Directive Principles jurisprudence has constantly grown up in the Indian Constitutional set-up. The Courts in India, while interpreting the Constitutional provisions, started right-based approach in 1990's for the protection of wholesome environment including the biological resources.

The decision of the High Court of Uttarakhand in *Divya Pharmacy vs Union of India and Others (Writ Petition (M/S) No. 3437 of 2016)* on 21 December, 2018 has been filed and the Petitioner's challenged that the UBB cannot raise a demand, under the Head of "Fair and Equitable Benefit Sharing" (FEBS), as the Board neither has the powers nor the jurisdiction to do that and, secondly, the petitioner in any case is not liable to pay any amount or make any kind of contribution under the head of 'FEBS'. The court has observed that

"This Court is of the opinion that SBB has got powers to demand Fair and Equitable Benefit Sharing from the petitioner, in view of its statutory function given under Section 7 read with Section 23 of the Act and the NBA has got powers to frame necessary regulations in view of Section 21 of the Act. The challenge of the petitioner to the validity of the Regulations fails. This Court holds that the Regulations 2, 3 and

*4 of the Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014 only clarifies and follows what is there in the Act and it is **intra vires** the Act.”*

For the issues related environmental dealing special tribunal established by Indian Parliament. The National Green Tribunal (NGT) Act has been enacted to provide for effective and expeditious disposal of the cases involving multidisciplinary issues relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right, redress and remedy, and to develop National laws regarding liability and compensation for the victims of pollution and other environmental damage.

The above mentioned facts, Conventions, treaties, protocol, laws, policies, rules, Institutions at international level and as well as also national level after the analysis of the following propositions are to be testified and justified in this thesis:

Biodiversity is very fundamental to the fulfilment of human needs and essential for the survival of this planet. Biodiversity and its conservation is a collective responsibility of all nations by adopting additional protocol;

There is a great threat to rich biodiversity of nature in India and the issues relating to biodiversity conservation law and policy are very complex and are still evolving particularly in the field of ABS model and associated traditional knowledge. And there is need to strengthen law and policy in India to conserve effectively biodiversity in general and ABS under Biodiversity Act in particular.

7.2 SUGGESTIONS

Apart from the above made concluding observations, the following are suggestions to address the issues and challenges of access benefits sharing under biodiversity law and policy:

- Biodiversity is essential for the maintenance and sustainable utilization of goods and services from ecological system as well as from the individual species.
- There is need to harmonize these provisions with the Biodiversity Conservation Act, in particular to enable local communities holding traditional knowledge of use of such biological material to benefit from providing access to such knowledge

- The alarming rate of species disappearance has become an overwhelming problem now a day. Restoration of degraded sites may help to abate the problem to some extent but it is hardly a variable alternative. As such method of sustainable development is an essential step conserving the world's biotic wealth.
- It is need of hour to change the approach to improve the quality of life by emphasizing better environmental quality, aesthetics, a culture, religion and bio-ethical issues rather than more and more material consumption.
- There is a need to create incentive mechanisms to encourage people to involve more actively in protection of Biodiversity.

7.3 RECOMMENDATIONS TO GOVERNMENT

These are the some valuable recommendations to government for addressing the issue of access and benefit sharing:

- There is no exclusive law about to dealing the Access and benefit sharing thus, the reason government made separate enactment to deals issues and challenges relating Access to over natural resources' and equal distribution of benefits which is collected from biodiversity.
- The government has tack to step for awareness programme about Access and benefit sharing.
- The Intellectual property Rights regime keeping in the mind, the government should made the particular clear law for Biosphere and sustainable development.
- The government should have implement Section 21 of The Biological Diversity Act, 2002 in real meaning.
- The government should have implement policies related to Access and benefit sharing and its special component plan and make the plan should for develop the ABS committee's rights.

7.4 SCOPE FOR FURTHER RESESARCH

Every attempt has been made in this study to analyze and evaluate biodiversity laws and its access and benefit sharing. The main focus of the present study was the national and international legal framework on biodiversity and its access and benefit sharing. Though the study was exhaustive, considering the significance of the topic and other constraints faced in the research, the study keeps the doors open for further research.

Some of the future scope of the study includes;

- There is a scope of detailed study on scientific and legal aspects of Access and benefit sharing arising from biodiversity.
- There is area of detailed study on policies, rules, regulations made by the central and states government with regard to Access and benefit sharing.



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