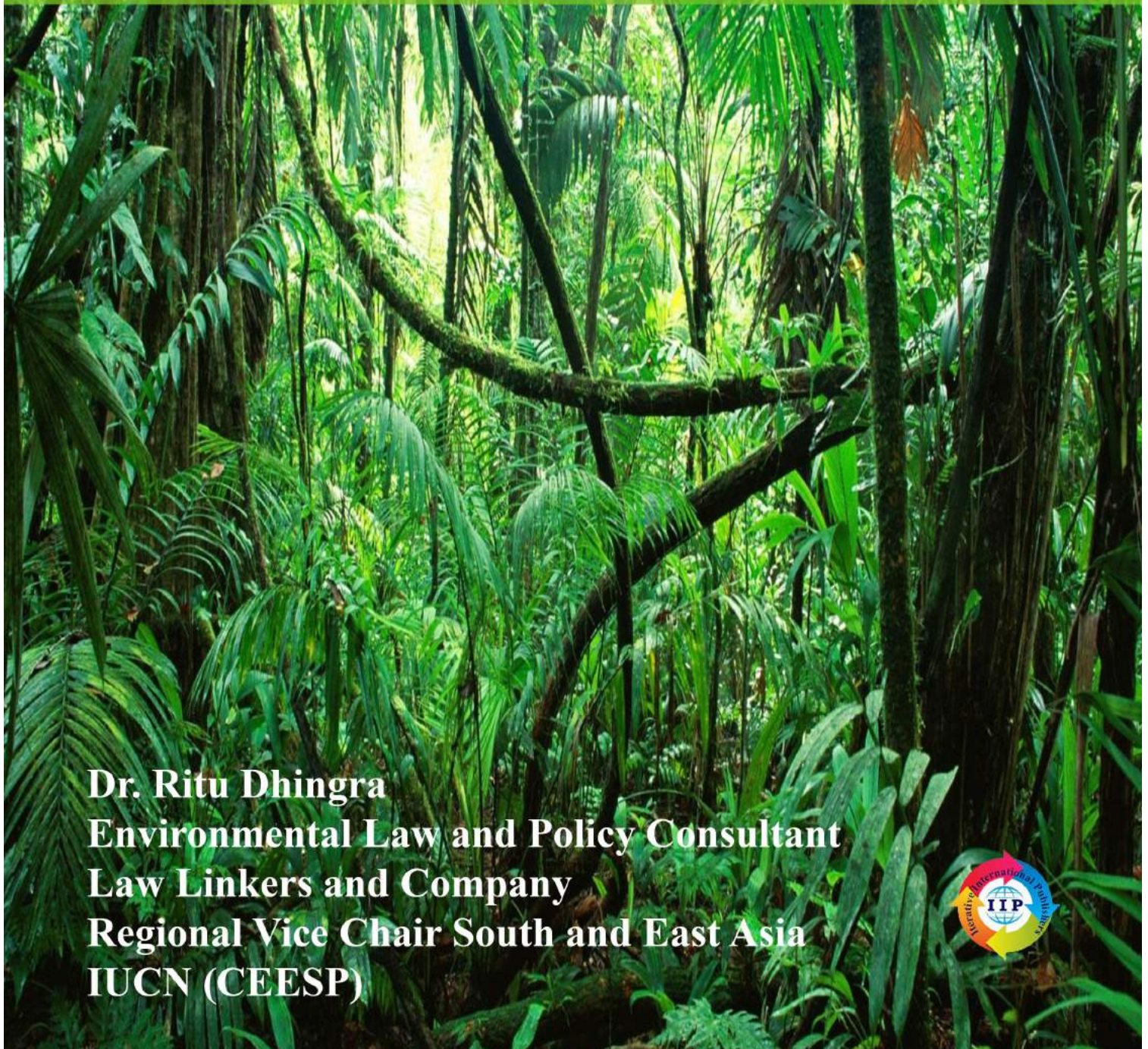


Explorations into Sustainable Development with Forest and Biodiversity Conservation

Legality, Indian Scenario, Traditional Knowledge Systems, Patenting Issues, Sustainable Development Goals, International Paradigm, Innovative Approach



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First Edition

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Preface

Forests being the lungs of planet Earth are the most important ecosystems. They act as carbon sinks and sustain a huge amount of carbon in them. They play an extremely important role for the survival of the living beings on this earth. From human beings to the flora and fauna of the earth's ecosystem depend on the forests in some way or the other. Forests are the repositories of enormous biodiversity¹ on this planet. They are an adobe to millions of species of animals including human beings, plants and microorganisms. They also give massive ecosystem services to the mankind and to all the living beings thriving on this earth. They regulate climate, water cycles and carbon sequestering on this planet. They even provide livelihood to human beings all over the world. They check global warming on this earth. The parameter of sustainable development² is that forest and biodiversity is conserved for the coming generations also. Forests are the most important repositories of terrestrial biological diversity. The diversity of life amongst the living beings and their distinct habitats, the interactions between the various components of the biodiversity makes this planet a habitable place for various life forms. Forest conservation is extremely important for intergenerational equity and the principle of sustainable development paves its way in it. The forests especially in the domains of forestry and agriculture provide 40% of world's economy. This is due to the biological diversity in the forest ecosystems. 70% of the world's poor populace who live in the rural areas is directly dependent on the biodiversity for their livelihood. A rough estimate of 60 million indigenous folks are somehow dependent on forests for their daily needs.³ The Supreme Court of India in *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh*⁴ elucidated the importance of ecosystem services as provided by the forests.

The Indian subcontinent has been bestowed with a vast acreage of forests from the ancient time. Various ancient scriptures have described forests as one of the main components of this land. The Indian socio-cultural history has excellent instances of religious connotations attached to the forest leading to its preservation and conservation. Sacred grooves, scared ecology all had been very vital elements of the Indian socio religious belief system. The Indian sub-

¹ "Biological diversity 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 includes diversity within species, between species and of ecosystems."

² "Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs."

³ Food and Agriculture Organisation (FAO), Biodiversity for a World Without Hunger, Forests, *available at* :<http://www.fao.org/biodiversity/components/forests/en/> (last visited on 26 Sep. 2019).

⁴ AIR 1988 SC 2187.

continent has been ruled by various rulers believing in different religions and who hailed from different parts of the world. So, forests management also kept changing in different reigns in different eras. From the management of the forests by the native kings from India to the Mughal emperors and towards the British rule, varied rulers have treated the Indian forests differently. Where Mughals used forests as a source of entertainment and indulged in hunting,⁵ the British looked at the forests as a revenue earning natural resource. The forest was looked upon as a commodity for providing wood and timber for building of ships and was exploited thoroughly. The British although tried to systematically manage the forests after a huge devastation had already taken place.⁶ After independence various steps were taken by the Indian Government to safeguard this natural resource and this process is still continuing. According to the Commission for Sustainable Development and in the terms of the 1987 Brundtland Report- “Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.”⁷ Forest conservation is extremely important for intergenerational equity and the principle of sustainable development paves its way in it. Development must go hand in hand with forest conservation. Sustainable development has its foundation laid on the notion that while developing policies for the developmental projects, states must pay due regards to the protection of environment and some sort of constraint must be imposed at the time of making such policies while giving due attention to the environment. Conserving biodiversity is the most important component for fulfilling the parameters of sustainable development because the species of plants and animals which are present today must be conserved for the coming generations for the sake of the intergenerational equity. The present research focuses on the effectiveness of the existing legal framework relating to forest and biodiversity conservation in India and the challenges involved in it. The researcher has put forward suggestions with regard to laws, policies and technologies involving forest and biodiversity conservation in India with a futuristic approach.

⁵ Mahesh Rangarajan, *India's Wildlife History* 12 (Permanent Black, 2001).

⁶ Donald M. Schug, “The Bureaucratisation of Forest Management in India” 58(5) *EH 229-Environment and History*, 229 (2000).

⁷ International Institute of Sustainable Development, Sustainable Development, *available at*: <http://www.iisd.org/topic/sustainable-development> (last visited on July 25, 2022).

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I. List of Abbreviations

ABS	- Access and Benefit-Sharing
AIR	- All India Reporter
A.P.	- Andhra Pradesh
APEDA	- Agriculture and Processed Food Products Development Export Development Authority
BEES	- Biodiversity and Ecosystem Services
BMC	- Bombay Municipal Corporation
CA	- Civil Appeal
BMC	- Biodiversity Management Committees
BSI	- Botanical Survey of India
CAMPA	- Compensatory Afforestation Fund Management and Planning Authority
CAF	- Compensatory Afforestation Fund
UNCBD	- United Nations Convention on Biological Diversity
CBI	- Central Bureau of Investigation
CCF	- Chief Conservator of Forest
CEC	- Central Empowered Committee
CEL	- Centre for Environmental Law
CPWD	- Central Public Works Department
CWP	- Civil Writ Petition
CCIEP	- Committee for International Environment Policy
CDM	- Clean Development Mechanism
CEPA	- Communication, Education and Public Awareness
CFC's	- Chloroflorocarbons
CITES	- Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	- Convention on Migratory Species
CSIR	- The Council of Scientific and Industrial Research
FAO	- Food and Agriculture Organization of the UN
COP	- Conference of the Parties
COP/MOP	- Conference of the Parties serving as the Meeting of the Parties
CPB	- Cartagena Protocol on Bio safety
CPF	- Collaborative Partnership on Forests
CSD	- Commission on Sustainable Development
DFO	- District Forest Officer
DIG	- Deputy Inspector General
DM	- District Magistrate
DIPP	- Department of Industrial Policy & Promotion under Ministry of Commerce and Industry

EDV	- Essentially Derived Varieties
EIA	- Environmental Impact Assessment
EC	- Empowered Committee
EPA	- Environment (Protection) Act
FAO	- Food and Agriculture Organisation
FCA	- Forest Conservation Act
FSI	- Forest Survey of India
FRI	- Forest Research Institute
GBIF	- Global Biodiversity Information Facility
GI	- Geographical Indications
GEF	- Global Environment Facility
GMO	- Genetically Modified Organism
GPS	- Global Positioning System
ha	- Hectares
I.A.	- Interim Application
IFS	- Indian Forest Service
IRS	- Indian Remote Sensing Satellite
IGC	- Intergovernmental Committee
IAS	- Invasive Alien Species
KV	- Kilovolt
KIOCL	- Kudremukh Iron Ore Company Limited
ILC	- Indigenous and Local Communities
IPPC	- International Plant Protection Convention
IARCs	- International Agricultural Research Centres
ITTO	- International Tropical Timber Organisation
IUCN	- International Union for Conservation of Nature
IWC	- International Whaling Commission
MDGs	- Millennium Development Goals
MEAs	- Multilateral Environment Agreements
MFP	- Minor Forest Produce
MIKE	- Monitoring the Illegal Killing of Elephants
MNRE	- The Ministry of New and Renewable Energy
M.P.	- Madhya Pradesh
MoEF	- Ministry of Environment and Forests
MoEFCC	- Ministry of Environment, Forests and Climate Change
mt	- Meters
MW	- Megawatt
NBS	- National Biodiversity Strategy
NBSAB	- National Biodiversity Strategy and Action Plan
NBAP	- National Action Biodiversity Plan
NEP	- National Environmental Policy
NEERI	- National Environmental Engineering Research Institute
NFPs	- National Forest Programmes

NGO	- Non-Governmental Organisation
NGT	- National Green Tribunal
NHPC	- National Hydroelectric Power Corporation
NP	- National Park
NPV	- Net Present Value
NRSA	- National Remote Sensing Agency
NTFP	- Non Timber Forest Products
PA	- Protected Area
PCCF	- Principal Chief Conservator of Forest
PGRFA	- Plant Genetic Resources for Food and Agriculture
REDD, REDD+	- Reducing Emissions from Deforestation and Forest Degradation
RFSTE	- Research Foundation for Science Technology and Ecology
SC	- Supreme Court
SCC	- Supreme Court Cases
SCR	- Supreme Court Report
SFM	- Sustainable Forest Management
SLP	- Special Leave Petition
SLRM	- Solid Liquid Waste Management
SPV	- Special Purpose Vehicle
TDKL	- Traditional Knowledge Digital Library
TKRC	- Traditional Knowledge Resource Classification”
TEK	- Traditional Ecological Knowledge
TRIPS	- Trade-Related Intellectual Property Rights
UNCCD	- United Nations Convention to Combat Desertification
UNFF	- United Nations Forum on Forests
UNDP	- United Nations Development Programme
UNEP	- United Nations Environment Programme
UNESCO	- United Nations Educational, Scientific and Cultural Organization
UNFCCC	- United Nations Framework Convention of Climate Change
UNECOSOC	- United Nations Economic and Social Council
UNDP	- United Nations Development Programme
USPTO	- United States Patent and Trademark Office
UPOV	- International Union for the Protection of New Varieties of Plants
U.P.	- Uttar Pradesh
UOI	- Union of India
USA	- United States of America
WLPA	- Wildlife Protection Act
WS	- Wildlife Sanctuary

WCCB	- Wildlife Crime Control Bureau
WHC	- World Heritage Convention
WIPO	- World Intellectual Property Organization
WSSD	- World Summit on Sustainable Development
WTO	- World Trade Organisation
WHO	- World Health Organisation
ZSI	- Zoological Survey of India

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