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# **Biodiversity Traditional Knowledge and Intellectual Property Rights**



# **BIODIVERSITY, TRADITIONAL KNOWLEDGE AND INTELLECTUAL PROPERTY RIGHTS**

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# Foreword

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Biodiversity forms the cornerstone of ecosystem functions and services that support millions of livelihoods throughout the world. India, one of the megadiverse countries in the world, harbours 7-8% of all recorded species including over 45000 plant species and 91000 animal species and an unaccounted plethora of microbial species, on only 2.4% of world's land area. The rich biodiversity of India is matched with equally rich cultural diversity and a unique wealth of time-tested traditional knowledge. Biodiversity linked traditional knowledge has the potential to provide enormous benefits to the country in the fields of agriculture, health care, biotechnology and sustainable management of environment.

Unfortunately, both the biodiversity and associated traditional knowledge are witnessing a colossal loss due to burgeoning population, industrialization, urbanization, habitat fragmentation, introduction of invasive alien species, unsustainable economic growth and loss of traditional life styles. Despite of the tremendous biotic pressures, India has been making sustained efforts for conserving the biodiversity heritage in view of its critical linkage with the livelihood security of millions of people.

India's strategies for conservation and sustainable utilization of biodiversity comprise of providing special status and protection to biodiversity rich areas by declaring them as National Parks, Wildlife Sanctuaries, Biosphere Reserves, Ecologically Sensitive Areas, Off-loading pressures from reserve forests by alternative measures of fuelwood and fodder needs satisfaction by afforestation of degraded areas and wastelands, creation of *ex-situ* conservation facilities such as gene banks, etc.

India has strong institutional, legal and policy framework for conservation of biodiversity. India is a party to the international Convention on Biological Diversity (CBD) which is the most comprehensive global agreement addressing all aspects relating to biodiversity. In addition to the CBD, the other important international conventions/agreements relating to biodiversity include: the Cartagena protocol on Biosafety under the CBD, the UN Convention of Migratory Species (CMS), the Convention on International Trade in Endanger Species of wild fauna and flora (CITES), the Ramsar Convention on Wetlands, the UN Convention to Combat Desertification (UNCCD) and the UN Framework Convention on Climate Change (UNFCCC).

India has enacted the Biological Diversity Act, 2002 which aims at promoting conservation of biodiversity and associated traditional knowledge, sustainable use

and equitable sharing of benefits of Indian biodiversity resources, knowledge and related matters. Under the provisions of the act, a strong institutional mechanism in the form of National Biodiversity Authority and State Biodiversity Board have been established.

I congratulate Prof Reddy and his colleagues, for their sincere efforts in bringing out this book highlighting the various facets and importance of biodiversity and associated traditional knowledge. This book also brings forth the issues to be addressed for the application of intellectual property rights to biological resources and traditional knowledge. I complement the authors for investing their knowledge, experience and time in bringing out this valuable timely and potentially useful contribution.

I am sure the book will be of immense use to various stakeholders in general and student community in particular.

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20<sup>th</sup> January, 2016

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# Preface

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Biodiversity contributes to many aspects of people's livelihood and well-being providing products, such as food, timber, medicines and fibres whose values are widely recognized. However, biodiversity underpins a much wider range of services, many of which are currently undervalued. Biodiversity is multidimensional and no single measure of biodiversity can capture all its dimensions. The biodiversity which has accumulated over 4.8 billion years witnessing and withstanding many vicissitudes in the past is confronting unprecedented onslaughts during the last few decades due to various reasons. The combination of unsustainable consumption in developed countries and persistent poverty in developing nations is destroying the natural world. In spite of growing awareness of the importance of ecosystems and biodiversity to human welfare, the loss of biodiversity and degradation of ecosystems still continues on a large scale. Reducing the rate of loss of biodiversity and ensuring that decisions made incorporate the full values of goods and services provided by biodiversity will contribute substantially towards achieving sustainable development as described in the report of World Commission on Environment and Development (Brundtland Commission Report). Biodiversity loss continues because current policies and economic systems do not incorporate the values of biodiversity effectively in either the political or the market systems, and many current policies are not fully implemented. At grassroot level ushering the awareness of importance of biodiversity and making the people partners in the conservation will go a long way.

India is bestowed with rich biodiversity. Biodiversity is one of the greatest assets of this nation. Many of the indigenous communities are still dependent on biodiversity for their livelihood. Voluminous traditional knowledge attached to biodiversity is still relevant and gained prominence in recent years. Unfortunately, the biodiversity and associated traditional knowledge is clandestinely crossing the frontiers, depriving the indigenous people's legitimate right over it. In light of global biopiracy, in recent times, there is a hot debate over the sanction of intellectual property rights to indigenous people, the prime holders of the traditional knowledge. Apart from intellectual property rights, alternative methods to protect the rights of indigenous communities have also been suggested.

The present book is designed in such a way to provide the necessary information in the above discussed aspects. The subjects matter of the book is presented in twelve well defined chapters. Chapters I to VIII deal with basic principles of biodiversity right from definitions and concepts to conservation. Chapter-IX deals with richness of biodiversity of India and its endeavours to conserve it. Traditional knowledge associated with biodiversity and its dimensions are dealt in

chapter X. Intellectual property rights related to biodiversity and associated traditional knowledge are discussed in chapter-XI. The last chapter explains the India's initiatives to protect its traditional knowledge inherited since ancient times.

The information embodied in this treatise is drawn from different sources especially UNEP, CBD, IUCN, Millenium Ecosystem Assessment (MA), TEEB, India's National Reports to CBD (4th & 5th), National Biodiversity Action Plan (2008) and research papers published in reputed journals and also some books. We gratefully acknowledge these organisations and sources. We made every effort to present the book in lucid style with lavish presentation of supporting data. Suggestions for improvement of this book are welcome.

We hope that this book will be useful to different sections of people like students, teachers, NGOs, policy makers and all other people interested in biodiversity, and it will find a respected place in libraries. We are thankful to Vikram Sanditi, Amani Reddy and Virat Sanditi for providing excellent working space during the preparation of manuscript of this book, without whose encouragement and cooperation this book would not have seen the light of the day. Shri Pawan Kumar Sharma and Shri Tanay Sharma of Scientific Publishers (India), Jodhpur have been a perennial source of encouragement, and who promised us to bring the book in the present form.

**S. Ram Reddy**  
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