



Bio-Cultural Diversity & Sustainable Development in North East India

Status, Vision & Challenges

Editors: Ajeya Jha, Sangeeta Jha & S. Munjal

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in North East India

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Edited by

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Introduction

The Northeastern states of India are ethnically and culturally very rich and distinct from the rest of the country. They are inhabited by a majority of the indigenous communities. Also, they have a variety of ecosystems. These communities have their own ancient traditional systems of using and managing the natural resources on a sustainable basis.

Culture diversity of the region is also well known. The tribes have diversity in their religions beliefs and social practices. Some are Hindus, some are Buddhists, and some others are Christians. Some still follow their tribal religious beliefs. Whatever their religion may be, their relationship with nature and biodiversity is remarkably friendly.

But, unfortunately, in the name of development, these communities are being displaced and their bio-cultural diversity is deteriorated. To explore ways to address this problem, Sikkim Manipal Institute of Technology Organized an international conference on sustainable Regional Development: status, challenges, visions—from the perspective of Northeast India from February 22 to 24, 2007, in which leading scholars and experts participated. This book is the collection of the updated version of the papers presented at the conference. In all, there are twenty papers in the book.

The first paper, Environmental Quality and Economic Growth: some empirical evidences, written by Amrita Sengupta (Basu) and M. Mishra, analyzes the relationship between environmental pollution and economic growth. It uses some indicators such as the number of motor vehicles and cement production representing environmental pressure to compare these indicators with economic activity level. Using time series data of environmental quality indicators, environmental quality is analyzed to see how it changes during the process of economic

growth. The hypothesis of the inverted U-shape curve in investigated as well.

The next paper, *An Analysis of the underdevelopment of Nehbandan Region in Iran*, written by Dr. Majid Yasouri, attempts to investigate the major causes of underdevelopment of Nehbandan region, located in the southern part of Khorassan province of Iran, bordering Afghanistan. It also presents several approaches for improving the existing situation. Pardeep S. Shehrawat, in his paper *Agro-Processing Industries: problems and prospects for factors responsible for sustainable small scale agro-processing units*. It also assesses the problems encountered by the entrepreneurs in making their units economically viable, and identify the training needs of these entrepreneurs.

The next paper, *SARA-M: Horticulture is an Economically viable and environmentally sustainable driver of Socio-economic Development in Mountainous Sikkim* by J. R. Subba, tries to examine the existing policies, institutions and processes, and how the imperatives of mountain specified in the mountainous Sikkim are contained or utilized for economic viability and environmental sustainability. In his another paper, *Ingenious Agricultural heritage systems and Sustainable Agricultural ecosystems Management in Sikkim*, J.R. Subba makes an in-depth study of indigenous agricultural systems of tribal communities of Sikkim and management of ecosystems by them.

Dr. A.A. Ansari, in his paper *Vermitech-An Steatite technology of organic waste management*, examines the effectiveness of vermitech in the management of organic waste. The paper is based on his study, conducted at the University of Guyana, Georgetown to effectively recycle the organic waste like grass clippings and cattle dung. The locally available earthworm species *Eisenia fetida* was used for the purpose. The next paper by Pradeep Kumar, namely, *Mainstreaming climate change concerns in Community Based forest management*, discusses how the climate may affect the community based forest

management and where the community-based forest management stands in relation to global warming. It goes on to discuss how some of the existing programmes can be modified to include the concerns of climate change without really diluting the essence of original programmes like forest protection and creating livelihoods. Finally, it suggests the ways of mainstreaming the issues concerning climate in the community forest management.

Archana Gudbole and Jayant Sarnaik, in their paper Biodiversity, cultural diversity and Sustainable development in North East India, present a detailed account of bio and cultural diversities in Northeast Indian region and address the key issue of sustainable development. They also look into the solutions for the development of the region within the indigenous knowledge, resource base and the diversity of village and community level institutions functioning in the region.

R. Sarmah, A. Arunachalam and M. Upadhyay in their paper, sacred values and Biodiversity Conservation Around Diamdapha National Park in Arunachal Pradesh, examine the role of sacred values and religions places in the conservation of biodiversity, with special reference to the areas around Namdpha National Park in Arunachal Pradesh. The next paper is written by Praddep Kumar on Biodiversity as an Agent of Sustainable Rural Livelihoods in Sikkim Himalayas. It analyses the role of bio-diversity in the daily lives of rural population, mainly of Sikkim Himalayas. It places equal importance to biodiversity and the people since the concept of sustainability in livelihood is involved.

The next paper, Fog water collection in the Northeast India: Problems and prospects, jointly written by Dr. Robert Schemenouer and Dr. Ajeya Jha, explores the prospects of fog water harvesting in Northeast India. Explaining the technology of fog water harvesting, it analyzes how relevant it is for the northeast region. Also, it discusses the problem that encounter at

the time of its implementation. Dr. Sandana Suhag examine the role of bamboo in the development of Northeast India in their paper *Bamboo species of Northeast India: Status, challenges and Vision*. They also present a detailed account of major species of bamboo and their current status in region.

H.G. Joshi, in his paper *sustaining the flow of New Breed of Entrepreneurs from the Region*, makes a critical study of the entrepreneurial skill of women in Sikkim. Presenting entrepreneurial profile of women, he analyses the role of training and support services towards sustainable development of entrepreneurship among the women. In their paper, *Mobile and Stationary Applications of Fuel-cell Systems*, Dr. S.N. Kulkarni and M. Eswaramoorthi present systems analysis for mobile and stationary applications of fuel-cells. They also make an economic analysis of different fuel-cell systems for stationary applications. The role of ecotourism in the sustainable development of Sikkim is analyzed by Jonas Zwitserlood in his paper *ecotourism in Sikkim: Principles, Achievements, prospects and potential problems*.

Next comes the paper of Laikangbam Dorendro Sing—*Growth Restriction of SMEs Located in Remote Landlocked Areas: A Northeast India perspective*. It identifies the factors responsible for the growth restriction of small and medium enterprises (SMEs) in Northeast India, especially in remote landlocked areas—such as small size of domestic market, high transport costs, limited linkage to local, small economy, lack of skilled labour, dearth of competitive support and infrastructural services, and lack of business knowhow. A comparative study of the spread of information and communication technology (ICT) in backward states of India, with special focus on the states of the Northeast is also made by Laikangbam Durendro Singh in his another paper, *A Comparative Study of the spread of ICT in Backward states of India with special reference to North Eastern States*.

In their paper 'Incubation of Grassroots Innovations for Sustainable Regional Development: An Experience with North East India, C.B. Vijaya Vittala and Anand Prakash Tiwary present case studies of innovative indigenous technologies helping sustainable regional development, with special reference to North East India. The contribution of Honey Bee Network towards documenting grassroots innovations has also been highlighted.

In the next paper, Look East Policy and the North-East Region, Anindita Adhikary (Bura), Bedanta Bora and Sonia Munjal attempt to ascertain the prevailing trade scenario in the Northeast region, and explore its prospects and threats across its bordering nations. They also analyze the impact of 'Look East Policy' on sustainable development of the region in terms of synergistic perspective.

The next paper—Gender and Development: from the perspective of Northeast India—by Ms Michele and Ajeya Jha focuses on gender perspective in sustainable development in the northeast region. The last paper, The Digital Divide, by Dr. Philip Benchaur, probes into the extent the digital divide is related to sustainable development, with special reference to Northeastern states of India.