

Trends in Environmental History in India:  
Theories, Issues & Perspectives



**Trends in Environmental History in India:**  
Theories, Issues & Perspectives

Edited by  
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Kolkata

First Published : 2020  
Sreejoni  
170/144, N.S.C. Bose Road, Kolkata - 700 040

ISBN:  
© Mugberia Gangadhar Mahavidyalaya  
Purba Medinipur, West Bengal, India

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*Published by*  
Sreejoni  
170/144, N.S.C. Bose Road, Kolkata - 700 040

*Typeset by*  
Chitrak  
170/144, N.S.C. Bose Road, Kolkata - 700 040

*Printed by*

*This book is dedicated to environmental History readers.*



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বাংলাদেশের পরিবেশ সাংবাদিকতার দৈনিক প্রথম আলো :  
সমালোচনাত্মক বিশ্লেষণ।  
রাজীব নন্দী

সমকালীন প্রতিবন্ধকতার পরিপরেক্ষিতে নারী নিসর্গবাদ  
সোনালী নস্কর



(ix)

জনসংখ্যা বৃদ্ধি ও পরিবেশ : একটি সংক্ষিপ্ত আর্থ-সামাজিক বিশ্লেষণ  
অসিত কুমার কর, তন্ময় ভট্টাচার্য

দঃ পশ্চিমবঙ্গের আরণ্যক 'লোখা' আদিবাসী ও অরণ্য - এক পর্যালোচনা  
সুমিত্রা ভূঞা

ঔপনিবেশিক যুগে বাংলার পরিবেশ দূষণ ও জনস্বাস্থ্য  
সুমিত্রা সরকার

প্রকৃতি যেখানে ধর্মের নিয়ন্ত্রক : পরিবেশের প্রভাবে সুন্দরবন অঞ্চলের  
কিছু লৌকিক দেবদেবীর উদ্ভব ও বিকাশ  
দোয়েল দে

পরিবেশ সংক্রান্ত সংরক্ষণমূলক নীতি এবং আইনসমূহ : অতীত  
ও বর্তমান প্রেক্ষাপট- একটি আলোচনা  
জ্যোতি মিত্র

সাঁওতাল ; উপজাতীর সমাজ সাংস্কৃতিকআলোকে একটি রূপরেখা  
সৌমিতা মিত্র



## Acknowledgements

This anthology owes to many persons and sources. First of all we are really thankful to Mugberia Gangadhar Mahavidyalaya, Bhupatinagar, Purba Medinipur, for their generous support and financial assistance, without which this International seminar and the publication of this book would have fall in a great crisis. We would also like to thank Paschimbanga Itihas Samsad, Kolkata for their consent as a collaborator of this seminar. We are also grateful to all the contributors whose articles have been incorporated in this edited volume. We are obliged to all the eminent resource persons namely, Prof. GP Das, Utkal University, Odisha, Prof. Pradip Chattopadhyay of Burdwan University, Prof. Ujjayan Bhattacharya of Vidyasagar University, Prof. Md. Abdur Rahim and Md. Humayun Kabir of Dhaka University, Bangladesh, Prof. Rajib Nandy of Chattogram University, Bangladesh, for their invaluable help in the seminar and in the making of this monograph. We extend our grateful thanks to teachers, students and research scholars particularly those who have come from different universities and research institutes and enlightened us by paper presentation and valuable insights. At the end we would like to record our sincere gratitude to the Principal of Mugberia Gangadhar Mahavidyalaya and the department of history, as well as teaching, non teaching staff and students of this college for their guidance and assistance that makes the seminar a grand success.

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## Preface

From antiquity to present time, nature, to a great extent has helped to assert the identity of all living things and has constituted the essence of interdependence. However, nowadays, such a symbiotic co-existence in the natural world is facing multiple challenges because of the unbridled change in the global environment. These changes in the ecological and environmental setup have resulted in becoming one of the most potent threats to the survival of the humankind. In most countries of the world, environmental crisis had been seen as one of the major concerns which are directly linked with the uncontrolled use of fossil fuels and massive depletion of forest cover. The world's capital intensive approach to development has led to drastic changes in the natural environment. Every year, thousands of acres of forest lands are being cleared for extension of agricultural lands. Wetlands and water bodies are also commercially being used, at the expense of the ecological balance. Rapid industrialization is also to a great extent, jeopardizing the environmental stability, and is responsible for spreading harmful wastes, non-biodegradable elements in the atmosphere, which in turn contributes to the acceleration of bio-hazards in the long run. To counter the trail of environmental destruction, it is imperative that we adopt an inclusive approach. However it is significant to note that, till date no stringent steps worth mentioning have been taken by any country to resist this menace. The awareness initiatives that have been launched by a few countries, like campaigns to save the earth, plastic free world etc, have failed to sufficiently motivate economically-backward countries. In India, massive despoliation of woodlands, uncontrolled use of ground- level water, along with rapid soil

erosion and rainfall shortages have precipitated an unprecedented ecological crisis. Probably the most devastating outcome of abusing nature is global warming, which is undoubtedly catastrophic for mankind. Environmental activists have unanimously accepted the fact that the situation is getting worse by the day and may soon become irreversible.

Having probed deeper into this subject, historians have concurred that environmental crisis in a region or in a country primarily depends on various policy issues and other multifaceted factors like continuous changes in the demographic structure of a region or a country, the complex parameters of sustainable development paradigm, economic and conservation policies of a country, rights of the forest dwelling communities in the forest belts and the use of its resources, forest conservation as well as wildlife protection, policies regarding uncontrolled conversion of wetland into agricultural land, rampant industrialization under the vision of development strategies and many more. Thus historical scholarship usually tends to focus upon various causes that have led to environmental crisis and scientific approaches to measure the degree of environmental crisis of a particular area. With time, fresh historical avenues have come up which has widened the understanding of man-nature relationship, extending the study of micro and macro history of interdependence between man and nature, arguing how symbiotic relationship is indispensable in restoring a tune of togetherness that has existed since time immemorial. Thus, the study of environmental history has a far-ranging influence on determining the equation between the human species and nature. Nowadays, it is believed, that if a country has to progress in all spheres of development, environmental protection strategies have to be scientifically adopted and efficiently executed through dynamic and pragmatic policies towards nature in the view of reinforcing interactions with the indigenous people in a friendly manner.

Since 1980, modern scholars and environmental historians have put tremendous efforts to trace a chronological history of the significant events that have directly or indirectly reshaped our natural world. They have outlined a well-defined historical



chronology that suggests that, the colonial economic expansion associated with irresponsible attempts of converting the forest land into the arable land for commercial use has had a great impact on the environmental sustainability, particularly in the South East Asia. Scholars have also emphasized that the replacement of the mixed forests by the commercially-valuable trees have triggered off environmental conflicts between the state sponsored agencies and the 'eco-people'. Following the trail of the past, research in environmental history has furnished empirical data that has helped to strengthen the utmost necessity of environmental protection strategies along specific pathways of debate and meaningful speculations. So to say, environmental history is a complex area of study that encompasses various aspects of human interactions with nature, state policies of forest reservations and the relation of the people with nature who desperately fought for reclamation of the forest land as their own and produced a cultural synthesis as the protector of forests. In addition to that, it has emerged as a very significant area of research to investigate ecology and environmental situation of India with its varied and significantly large structures of ecological diversity and topography and markedly divergent views of environmental uses. The grave situation of the environment in India, demands the broadening of the area of environmental research, in view to call forth substantive support from the concerned authorities, as a matter of highest urgency as well as to assist the concerned authorities in developing and maintaining a framework for management and restoration of ecological balance.

Apart from this, historians have drawn on many other areas that have a great deal to do with ongoing politics, particularly in the area of policy making. For instance, it has been found, very significantly, that Forest Acts meant to conserve forests, have in fact given way to many exploitative measures, which in a broader way have ended up curtailing the forest rights of the eco-people. The exploitative nexus between theorists of conservation with forest officials and the indigenous approach to forest conservation has remained a complex area in regional contexts in the Indian sub-continent. It has been documented in both micro and macro level

that the depletion of forests and the scarcity of resources has been one of the principal reasons leading to the 'ecological warfare' between indigenous people and the forest officials in different parts of forest belts. In recent time, most of these studies have documented the disintegration of symbiotic relationship of indigenous people with nature, because of the alienation of the eco-people in the process of forest conservation. It has also been documented, how the destruction of forests and its impact on the lives of the tribes has been defined within a uniform straight line theory. However, it has been found in micro-level studies that the impact of forest reservation wasn't the same on the lives of all the tribal communities and hence they cannot be clubbed under a homogenous group. Therefore it highlights the gaps in our present understanding and underlines the need to conduct more intensive research into the present status of the tribal communities vis-a-vis the man-made disruptive changes brought about in nature.

With this backdrop, it would be pertinent to look into the essays included in this proceeding volume, which emphasize ideas and issues relevant for a closer understanding of the environmental problems and its remedies. Eminent professor and Key-note Speaker Prof. GP Das, in his article 'Nature, Culture and Tribals: An Ethical Point of View' has looked into the ethical values of tribal people and examined the environmental protection strategies that developed within the customary practices. He argues that, tribal culture represents the basic or primary human attitude to the world. It has a corrective value to the modern man, who is conquering, hierarchical, competitive and consumerist. To label them as pre-logical, mystical, unreal is to libel them. Their mental mechanism is not of an order different from our own. Classical evolutionists believe that tribal culture is a transitory stage in the evolution of human culture. But it is far from being true. It is of a different social type with a corporate identity, personality and right to its own existence. Following gravely concerning practices of man, who is solely responsible for abusing nature, affecting the man-nature relationship, he highlights the tragedy of how the expected custodian of Nature, has transformed into the most greedy

and ruthless destroyer of Nature. Prof. Das advocates the doctrine of minimalism and also underlines the interesting emergence of this doctrine in the West in contemporary times and its gradual popularity in India, when it was Gandhi who had promulgated this in futility, in the last century.

Rajib Nandy who is an Assistant Professor of Chattogram University, Bangladesh has written an excellent piece on environmental journalism. His paper is entitled “Bangladesher Poribesh Sanbadikatay Dainik Prothom Alo : Ekti Samalochatmok Bishleson”. In his paper he has thoroughly examined the environmental news articles of Bangladesh, published in the daily newspaper Dainik Prothom Alo. According to him, environmental pollution and global climate change is a highly-debated topic in the world, in recent time. This issue is very important for Bangladesh as well. Many newspapers of Bangladesh include discussions of this topic in their publication. Dainik Prothom Alo is a widely circulated daily newspaper in Bangladesh. In this paper, the author has presented five important articles on environmental pollution and global climate change, previously published in Dainik Prothom Alo. The interests, journalistic practices and commitment of the newspaper on this issue have been explored. He has also taken into consideration, how selecting environmental news as the predominant orientation of Dainik Prothom Alo, has helped in bringing about a gradual change in the environmental setup of Bangladesh.

In recent times, India is facing a serious crisis because of the gradual loss in ground water level. Scientists have claimed that it could worsen with population explosion in the coming years. Keeping in mind of the water scarcity in many towns in India including Kolkata, a science-based project paper named “Groundwater in the Quaternary aquifer of Kolkata Metropolitan Area” undertaken back in 90s has been incorporated in this edited volume written by former Professor Srikumar Chatterjee of Calcutta University. He has highlighted the indiscriminate withdrawal of groundwater below the urban centers, especially regions with low natural topographic gradients, such as deltas and

flood plains and how it can drastically alter the hydrological system. These changes influence remote area locations, which may shift closer to the city than before development, thereby augmenting the potential for contamination. Hydrological simulation analysis allows evaluation of the impact on past, present and future pumping for the region of Kolkata on recharge area locations. Prof. Chatterjee shows how the groundwater withdrawal pattern led to a distinct lowering of the piezometric level in Kolkata in the last five decades. According to the available data- in the year 1956, 55 million liters per day; in the year 1989, 182 million liters per day; in the year 1992, 219 million liters per day; and in the year 1994, 227 million liters per day are being withdrawn. In 1993, the post-monsoon flow pattern was similar to that of 1985 but two important changes were observed: (i) the oval area with the deepest contour of - 8.5m. increased by about two times, expanding mainly towards N and NNE; and (ii) the groundwater flow direction in the southwestern corner of Kolkata changed from west to east in 1985 to South-North and then veered to the East towards the central groundwater trough in 1993. During the 1994 pre-monsoon period two important changes were observed compared to 1985: (a) the central area of the trough defined by the -10.5m. contour increased by about 13 times; and (b) in Howrah, the flow direction changed from WNW-ESE in 1985 to a pattern radiating from the NW during 1994. This shift from an “open” North-South natural groundwater flow pattern to the “closed” system is evidently the outcome of indiscriminate withdrawal of groundwater in the KMA, as Prof. Chatterjee, very astutely concludes.

Shamita Sarkar’s chapter on “Purity and Pollution in Benaras: The Holy and the Unholy” draws a critical analysis of waste management system in the ghats of Benaras since colonial to postcolonial times. She has analyzed how the debate on sewage system in the city played an important role in framing the idea of a clean city along with Clean Ganga Campaign in the late 20th century. She puts emphasis on the debate of drainage system developed from colonial to post colonial times and show how the local residents’ Clean Ganga movement shifted from Benaras to a

larger space with time and how the religious tune converted to a stronger sentiment to counter overall pollution.

Sri Amitabha Sengupta, Ex-Chief Engineer (Electrical), Public Works Department, Government of West Bengal, in his paper 'Towards Sustainable Development: A journey through time' focuses on the global warming and explores different reasons and results of abusing nature. According to him environmental history, in general terms, is a history that tries to explain why our environment is like it is and how humanity has influenced its current condition, as well as the problems and opportunities of tomorrow. Following the trail of events, he goes back to the time when 4.5 billion years ago, our earth was formed. The life on Earth began after 1 billion years of formation of the earth. The biosphere is the layer of the planet Earth where life exists. The biosphere is made of different ecosystems. Living organisms cannot live isolated from their non-living environment because the latter provides materials and energy for the survival of the former to produce a stable system; a natural self-sufficient unit which is known as ecosystem. The future of the biosphere depends on how ecosystems function. People play an important role in maintaining the flow of energy in the ecosystems. However, unfortunately human beings are the most disruptive force of the flow. For example, in the atmosphere, oxygen level decreases and carbon dioxide level increases when people clear forests or burn fossil fuels. Oil spills and industrial wastes threaten life in the hydrosphere. His paper mainly attempts to study how the environment can be protected from degradation by using natural resources at optimum rate that should not exceed its generation rate. Highlighting 'Brundtland' Commission's Report, this paper tries to explain that the concept of sustainability and explores the relationship among economic development, environmental quality, and social equity.

An excellent paper on "Stone-Crushing Industry of Birbhum and its Impact on Labour and Environment: A Historical Survey" by Sayantika Chatteraj & Kesobananda Choudhuri highlights socio-economic impact of stone mining industries of Birbhum,

the 'land of red soil'. They have argued that, Birbhum is the store house of minerals like Quartz, Granite, Feldspar and Basalt. Besides agriculture and forest- based industries, stone mining constitutes an important means of livelihood as well as an essential requirement for building industry. The stone mining and crushing units have grown in number and size, exploiting the vast reserves available. This informal sector employs a considerable number of local and migrant labours, mostly unskilled. So, the stone mines and crushing sector with its economic value, employment opportunities and export earnings, plays a key role in developing the district's economy. It is considered as one of the small and medium scale industries (SMIs). However it has its own ecological impacts. Rapid and unplanned spread of mines, dearth of proper knowledge about health problems, insufficient safety measures, reluctance of the mine owners towards environmental and human welfare, and above all the human desire of incurring more profit has severely counted on the surrounding environment and the people living around. The paper has been an excellent attempt to explore the growth and development of stone quarrying and crushing industry in Birbhum district, with special reference to the working and health conditions of the workers employed together with its ecological consequences.

Robin Das in his chapter "Man-nature Conflict, Environmental Issues and Thinking towards Green Growth cum Sustainability: A Tale of Many Stories having Reality with Mythical Effort" draws a picture of conservation policies and shows how the man-nature conflict began to dominate the concept of sustainable development. Das has pointed out that the current environment-society relationship is wholly at odds with the holistic view of nature within the sustainability discourse and what we need, according to him is to 'free' the discourse on man-nature conflict and sustainability from ideas and knowledge that has been germinated in the Western world whose developmental contexts are entirely distinct from the developing world. Slogan for both present and future world should be – "Think, Plan and Act Locally, Support Nationally and Realize Globally". There should be needed to take

the '4R' policy on Reduce, Reuse, Recycle and Recover of resources. To mitigate the stress arising from resource conflict, it is needed to be confronted with knowledge exchange; what we need is a culture of "do ecology", i.e., meeting the needs of the current and future generations without ecological harm. Das emphasizes on the need of a culture of "save ecology", i.e., protecting, preserving and conserving the nature, natural resources, the living and non-living correlation, the man-nature inter-relationship and green ward activities without ecological deterioration and a culture of "think ecology", i.e., making the eco-centric idea for the social, cultural, economic, political, administrative and also spiritual development without undermining the base of local, regional, national and global ecology.

Folk music and its direct link with surrounding landscapes is the main theme of the paper on "Musicology and Environment: A synthesis of Cultural Geography of Bengal" by Irani Banerji Chatterjee. She has pointed out that, environmental studies include the awareness and perception about natural and cultural environment of a place and hence works as a tool of cultural representation through music. She traces how folk music has played an important role in delineation of natural environment for ages. People belonging to different regions have diverse culture and tradition which can best be evaluated through the folk music of those areas. These environmental diversities have an impact on the lyrics, rhythms, instruments used, etc. She further expands her investigation towards the relationship between folk music and environment in general and the folk culture of Bengal in particular. Reference to the song varieties that reflect natural environmental perceptions of Bengal are discussed expansively in this chapter. She argues that the folk songs (particularly, Bengal) are divergent with respect to their immediate natural environment. Expressions about topography, climate and natural vegetation plays a direct impact on the folk music and vice versa, where, the natural surroundings, ecosystems and even climate abnormalities have a deep impact on the music geography. Seeking examples from Bengal, the study is essentially eco-musicological in approach with a close proximity to the geographical understanding of Bengal.

Gobinda kar's article on "The Environmental Issues in Pre-colonial period of the South –West Bengal" explains the historical journey of human civilization with the surrounding nature in the pre-colonial south-west Bengal. He studies the evolution and development of environmental or forest based culture of pre-colonial times. In the Paleolithic and Neolithic era, man survived and advanced by depending upon forests. Gradually man started to settle in, to farm, to weave cloths, and to cook, thus evolving their relation with forest. This change was signified by the fact that they became more dependent upon forest. With the progress of time people could understand that forests were the inexhaustible sources innumerable resources and times of wealth, and they started to use them to make their comfortable. Thus civilization and culture used and abused forests as their trampling ground.

An interesting chapter dealing with environmental accounting has been incorporated in this volume, in their paper on "Current Scenario of Environmental Accounting in India: A little discussion", where Mrinal Maity and Ratna Panda Maity explain how global warming extends severe environmental crisis in every country, due to which the average temperature of the earth is increasing day by day. Co<sub>2</sub> and chlorofluorocarbon are the main components of green house gases. The paper talks of the ultimate failure of Global summits held regularly to address and redress the crisis of global warming facing our planet. Mrinal Maity and Ratna Panda Maity also bring to the fore new steps of Carbon trading and Green accounting for business concerns to combat this global catastrophe. Green accounting or environmental accounting is a new concept that measures cost and benefits rendered by the eco-system to a business concern. The main objective of green accounting is to combine accounting with environmental economics, through effective value management in order to minimize the damage to the environment. They have also highlighted with verifiable data, the present scenario of green accounting practice and reporting in India.

"Environmental pollution effects on library books and other related materials: A descriptive study" is a well thought article



written by Ananda Barui & Aninda Barui. According to the authors, the result of environmental pollution is multifaceted. It can affect library books and other related materials; they have examined that the environmental pollution causes serious impact on the preservation of library books and other related materials. They have investigated various causes of deterioration of library information resources, among which are – high temperature, fluctuating relative humidity, natural aging process, inherent chemical content used in the process of paper making, improper handling of library materials by the user, etc. At last, some useful suggestions have been given by the authors for the protection of library resources from environmental pollution.

“Bio-Diversity: The power of Nature” by Sucheta Adak is based on an overall analysis of the bio-diversity which according to the author needs to be saved for better future. Mother Nature gives us all the basic needs to make us happy, healthy and wealthy. Biodiversity is one of the most important features of our Nature. But the menace of urbanization, followed by modern demands associated with fast lifestyle gradually curtails symbiotic relationship with nature in a drastic way, causing various negative effects on the nature as well as human lives and silently we diminish our health, wealth and happiness which were once given by Nature. The author draws on how development is necessary, but not without protecting the environment in a sustainable way.

“Relocating L.M.Silko’s Ecofeminist Fiction in Gardens in the Dunes: an American “Indian” Novel” written by Sayan Bhattacharya is based on Leslie Marmon Silko's *Gardens in the Dunes* (1999) from the perspective of ecofeminism which girdles issues like capitalism, mothering and obviously gardening. This essay has wider perspectives on Silko's fictitious delineation of the journey of a Native American girl-child of Arizona from barrenness, alienation and innocence to rejuvenation, assimilation and experience respectively in the context of the post-Independence Indian history of environmental hazards. One may question the validity of such relocation; however the answers to such questions lie within Silko's scope of global fiction which

blurs geographical boundary because every individual, irrespective of his or her nationality is affected by environmental issues. This paper critically examined the areas of interest within Silko's experimental global fiction with proper references: How *Gardens* deals with various environmental issues? How Silko handles multifarious modes of ecofeminism in *Gardens*? In what way can the environmental issues concerning *Gardens* be applied to the recent trends and perspectives in the environmental history of India? Silko, in her novel celebrates the special bond shared between tribal people and nature and simultaneously cautions her readers about the vulnerability of this bond under diverse external pressures. The Native American group and the non-Native group featured in the novel mirror both profits and losses due to their attitudes to environment.

This edited book also contains some of the interesting papers in Bengali. Sonali Naskar's paper on "Samakalin Protibandhokotar Poriprehhite Nari Nisargabad" is based on Eco-feminism. She argues that the ecological relationship between women and nature is evident since centuries in many ways, and draws a parallel between the subordination and oppression of women and similar patterns of colonisation and conquest of the natural world. She also discusses on how the degradation in natural world brings severe impact on the mind and health of women. Soumita Mitra's article on "Saontal : Upojatiyo Samaj Sanskritir Alope Ekti Ruprekha" addresses some of the important socio-environmental issues of the Santal villages, where as Doyel De in her article on "Prokriti jekhane dhormer niontrok : Poribesher probhabe Sundarban ancholer kichhu Loukik Deb Debir udvob o bikash" explores some of the folk culture of Sundarbans area and shown how ecological knowledge of the local people of Sundarbans area sustained since time immemorial and produced a cosmopolitan culture among its residents. "Dakshin Paschimbanger aronnyok Lodha adivasi o aranya – ek porjalochona" is an important empirical work done by Susmita Bhuina, where she has focused on the participation of the Lodha tribes of the South West Bengal in the Joint Forest management Programme and looked into the success achieved by them in restoring the environmental stability.

Asit Kumar Kar & Tanmoy Bhattacharya in their thoughtful article on “Janasankhya briddhi o poribesh : ekti sankhhipta arthya samajik bisleshon” critically examine the demographic explosion and its impact on the environment. Incorporating some of the statistical data, they have tried to find an answer on issues like crisis on economy and resources because of the uncontrolled population growth in the subcontinent. Sumitra Sarkar’s article is a well articulated one that focuses on the environmental pollution and public health hazards in colonial Kolkata. Her chapter is entitled “Ouponibeshik juge Banglar Dushon o Janasathya”. Jyoti Mitra in his article “Poribesh Sanrakhhanmulok niti ebong aain somuho : Otit Bartman prekhhapot-ekti alochona” deals with some of the important Forest Acts that have been enacted in the postcolonial time to restore environmental stability and also discusses some of the environmental movements that occurred in India against environmental degradation.

These chapters on various aspects of environmental challenges facing our planet, included in this edited volume are immensely important for a close understanding of the magnitude of environmental impact on our lives and the urgent remedial measures to combat it. Now, let us conclude by throwing light on our initiative that we thought to be important for further discussion and scrutiny. We have taken initiatives to organize this International Seminar keeping in mind of the grave environmental situation worldwide. The situation is getting worse as time passes, and we need to fight within our capabilities to save our planet. In India, there are some governmental policies directed towards environmental protection since the Stockholm Conference in 1972. However in the 21st century, the degree of ecological and environmental problems has escalated uncontrollably. Global climate change, water crisis, recurrent cyclones, variations in rainfall, all these are outcomes of the rampant change in the climate. Thus along with environmental protection policies, there is a requirement for massive propaganda on awareness campaigns in schools and colleges and in government sectors. In this context, we wanted a discussion and we can declare with joy that we have

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received more than 30 research papers on various issues out of which 20 articles have been incorporated in this volume. We hope that this volume will draw attention of all types of readers and they will be enlightened profitably with regards to the threatening environmental issues.

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