

Book Review

Effects of Climate Change in Asia-Pacific Region

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Climate Change in Asia and the Pacific: How Can Countries Adapt?

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400 pages

\$60 or INR 1195

The book "Climate Change in Asia and the Pacific" is a compilation of papers presented in two workshops of Asian Development Bank Institute organized in Tokyo and Colombo. The objective of the workshops was to bring together the leading academics and policy makers from the Asia and Pacific region to share good practices for developing integrated adaptation solutions to address the causes and consequences of climate change.

The book is divided into six parts; first part aims to identify the main risks associated with extreme weather events, quantify their impacts and review the available risk assessment tools and available planning instruments, articles in second part discussed various driving forces to strengthen resilience, third part looks at the adaptation and its issues in decision making and administration, fourth part is about public awareness and local capacity, fifth part tries to assess the key operational issues in mainstreaming the adaptive strategies by the policy makers, and lastly, the concluding part attempts to comprehend the findings to provide a strategic way for short and medium term adaptive capacity building. The main elements of this book are climate change impacts, local coping mechanisms, integrating climate change adaptation measures and capacity building. The first five parts outline the existing policies, sectoral planning measures that need to be incorporated to enhance adaptive capacity. We appreciate the initiative of Sage Publication India Pvt Ltd to publish this informative book and Asian Development Bank Institute for taking up this timely concern. Editors of the book need to be congratulated for their valuable efforts in bringing out this excellent volume. With my due concern in the field of climate science and climate research, I have read the book thoroughly and enjoyed reading this volume. Apart from general introduction and Conclusions, Policy Implications, and the Way Forward the book is divided into five parts namely, Climate Change Challenges, Scenarios, Risks, and Planning Tools; Evolving Adaptation Measures in the Region; Successful Programs and Measures of Adaptation in Vulnerable Areas; Action Plan for Policymakers and Planners to Reduce Risk Impact; and Capacity Building Strategies for Mainstreaming Climate Change Adaptation. My views on each part of the book are being described in the following sections.

*eSS Review Nautiyal on Anbumozhi
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Part I of the book consists of very well structured article providing wealth of information about agricultural productivity shrinkage and carbon fertilization effect. The authors have critically analysed three models for estimation of agricultural impact of climate change and used dynamic computable global equilibrium model of the global economy to investigate the potential impacts of climate change on agriculture with special reference to Southeast Asia. This part tries to identify the current path and approach adopted by certain countries in Asia may lead to mal-adaptation and the authors emphasizes on integrating the adaptation and development in Asian economies with respect to natural resource planning, which is indeed very crucial. The articles in this section have reasonably presented the approach for mainstreaming adaptation into development planning through four stages namely, awareness building, targeted communication, pilot investments and final stage of full integration of climate change by mainstreaming. In this section authors have reviewed framework developed by Conference of Parties (COP) and bilateral programs have progressed so far and claims that funding is the critical constraint to adaptation efforts.

The authors have well enumerated the driving forces to resilience with examples from adaption measures in Japan and sectoral development plans in agricultural sector and water resources sector have been included with broad framework. The lack of timely information on climate induced hazards has been considered as the prime factor for retarded measures. The case study of Seyhan river Basin of Turkey gives a very good understanding of how current research is insufficient in future climate change projections. Identifying the maximum utilization of available resources is suggested as key to adapt to climate change. This makes this part very interesting and will help readers further to develop understanding on the complex issues of climate science.

Part II of the book is composed of 7 articles, which aim to describe successful programs and adaptation in vulnerable areas. The first three articles discuss about flood hazard, its monitoring, analysis prevailing warning system and forecasting model based on rainfall-runoff. The two chapters on flood monitoring and warning systems in Thailand and Mekong basin give a comprehensive views of the existing systems and the second article talks about the improvement required in capacity of local communities, adoption of new technology, accuracy in hydrological model and filling up the gap in precipitation and run-off data. Evaluation of effectiveness and subsequent suggestions for improvements should be based on tangible observations or any kind of representative survey therefore, the supportive data or information for such conclusion would have been included in this part. Integrated Flood Analysis System- a toolkit developed by International Centre for Water Hazard and Risk Management has been scrutinized and elaborated in terms of its applicability, input-parameters, user interface and verification.

The prospect of insurance to manage climate change risk (specifically natural catastrophe, which unlikely includes other dawdling impacts like groundwater table depletion, cropping and productivity etc) has been described. It would have been better if this part of the book would have discussed about the existing role that played by insurance in Asia and the Pacific to manage risks of climate change. Another chapter discusses about three community-based initiatives as case studies: supporting communities affected by river erosion in Bangladesh, rehabilitation of desert zone ecosystem and sustainable alternative livelihoods in Mongolia, and Carbon Neutral

Initiative for empowering communities in Indonesia. The approaches, challenges and lesson learnt from those three experiences have been elaborated pretty lucidly and recommendations based on those are briefed. The article on case of gender alliance in Japan for disaster prevention system is mere description of role of neighborhood female groups in disaster recovery and support, which could have been supported with some facts and figures to formulate functional reference from this experience. The last article in this part attempts a very important topic i.e the adaptation of combined structural and non-structural measures. It gives a worthy discussion on integration of structural and non-structural measures for adaptation and their optimization.

This section as per the title, supposed to talk about the broad challenges faced by policymakers in tackling and mainstreaming the issues of climate change. The expectation perceived from the title is not fully satisfied by the articles, though the content is very substantial and informative. Downscaling the global issue to local problems and thereby taking initiatives for community's capacity building is a big challenge in his regard. The first article presents the list of challenges in mainstreaming adaptation strategies and gives a narration of the capacity development program developed by UNU to address the states challenges. The second article discusses about financing disaster responses in Vietnam, and scope of sustainable mitigation of natural disaster primarily through Self Reliant Fund. The article on economic analysis of climate change impact on agriculture at farm level in Tamil Nadu, India is a piece of research based on scientific methodology for impact assessment and looks at the impacts of climatic parameters on agricultural productivity in different districts. The last article in this chapter addresses one of the most imperative components of climate change adaptation strategy i.e. the role of existing and new knowledge on adaptation through Adaptation Knowledge Platform. And in Part IV, authors advocate climate resilient development and the adaptive capacity planning has been well documented and highlighted with tables and schematic diagrams. Regional adaptation planning and its current status are timely and have shed light on various issues relating to adaptation.

Asia and the Pacific being the context for this book, it is really a very big challenge to incorporate the policy recommendations in one plan with unanimous agreement, which this book has attempted to achieve to higher extent. The concluding part of the book starts with describing the impacts and then adaptation strategies; however, there should have been some more efforts to address the degree of vulnerability in both spatial and demographic terms. It summarizes six no-regret adaptation strategies. But the traditional knowledge management (TKM) and applicability in adaptation to impacts of climate change should have been included in this section. Facilitation of migrations, private sector participation in insurance and credits has been considered as no-regret adaptation strategies. These approaches have multifaceted consequences and have been discussed in various debates; thereby adding uncertainty to the list of no-regret strategies. The policy recommendations for adaptation strategies could have been more specific based on the experiences described in the preceding sections if vulnerability classification was done. Overall policy options suggested in this chapter have been found are much generalized. Bottom up planning for adaptation strategy building and climate change impact management has been missing, which is an integral part for addressing unique problems of particular vulnerable areas. Climate resilient agricultural practices and sustainable water usage should have been a major focus as these are the core issues related to food security, poverty, health etc in the entire succession of climate change impact. Another missing sector in the entire discussion of adaptation to climate change is how to manage health consequences. The World Health

Organization estimated that climate change has already caused over 150,000 deaths per year and these risks are expected to increase substantially in the future. On the whole, this section could have more reflections in establishing the linkages among risk and vulnerability assessment, success stories of adaptation, learning from failure in respective vulnerable areas which is essential to upscale or replicate integrated adaptation strategies in other areas of similar characteristics. Categorization of areas from different countries in terms of vulnerability typology with other characteristics like geo-environmental setting, socioeconomic status, financial and institutional strength would have been more useful for policymakers to pursue the appropriate recommendations. The description of problems, experiences and the following solution seeking chapters could have been more coherent to make the suggestions pragmatic. Some more insight to local problems and corresponding solutions contextual to the vulnerable areas while treating them individually would have contributed to the information. Most of the chapters could have been incorporated with some more empirical research to give the readers a concrete view of different dimensions of vulnerable regions, which will also contribute to “adaptation” of adaptive strategies in areas of analogous characteristics. Adaptation strategies need to take culture, tradition and socioeconomics of the communities into consideration along with state capacity and opportunities, which seems to be lacking in the literatures. Some more focus on local governance functions and the role of the government are missing which would be a critical element in decentralized planning for adaptation. But above comments should be taken in readers’ viewpoint and expectations from them. Though, I am well aware that it is not always possible to include each relating component under one broad umbrella and that too in one single attempt.

I have described my views on the book in the perspective of its content, issues, challenges, coherency and applicability in current context of cutting edge research. Once again I would like to compliment the distinguished editors and scholars who have made marvelous contribution for bringing out this volume in a very comprehensive way. The book gives a commendable description of the issues related to climate change in Asia and the Pacific in a broad arena and apprehended very well. It is a wealth of information considering climate change in general in the context of Asia and the Pacific and compilation of scholarly articles.