Ecosystem Based Adaptation Community Environment And Disaster Risk Management | 52d7a7e9d97caeeb37445008f757644e

Building Community Resilience to Climate Change

Surviving Climate Chaos

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Climate change and the related adverse impacts are among the greatest challenges facing humankind during the coming decades. Even with a significant reduction of anthropogenic greenhouse gas emissions, it will be inevitable for societies to adapt to new climatic conditions and associated impacts and risks. This book offers insights to first experiences of developing and implementing adaptation measures, with a particular focus on mountain environments and the adjacent downstream areas. It provides a comprehensive ‘state-of-the-art’ of climate change adaptation in these areas through the collection and evaluation of knowledge from several local and regional case studies and by offering new expertise and insights at the global level. As such, the book is an important source for scientists, practitioners and decision makers alike, who are working in the field of climate change adaptation and towards sustainable development in the sense of the Paris Agreement and the Agenda 2030.

Community Champions

Provides essays, exercises, summaries, learning tools, and definitions focusing on the issues surrounding ecosystem management.

Routledge Handbook of Ecosystem Services

It is widely acknowledged that, in addition to global and regional efforts to cope with climate change by means of mitigation measures, adaptation initiatives can and perhaps should play a key role in enabling communities from across Africa to better handle the problems related to it. Due to the fact that experiences in climate change adaptation in Africa are poorly documented, this book provides an attempt to address the perceived need for better documentation and dissemination of African experiences on climate change adaptation.

Ecosystem-Based Adaptation

Surviving climate chaos needs communities and ecosystems able to cope with near-random impacts. Their strength depends upon their integrity, so preserving and restoring this is essential. Total climate breakdown might be postponed by extreme efforts to conserve carbon and recapture pollutants, but climate chaos everywhere is now inevitable. A adaptation efforts by Paris Agreement countries are converging on community-based and ecosystem-based strategies, and case studies in Bolivia, Nepal and Tanzania confirm that these are the best ways forward. But success depends on local empowerment through forums, ecosystem tenure security and environmental education. When replicated, networked and shielded by governments, they can strengthen societies against climate chaos while achieving sustainable development. These vital messages are highlighted for all those who seek or have already found a role in promoting adaptation: for students, researchers and teachers, government officials and aid professionals, and for everyone who is now living under threat of climate chaos.

Nature-Based Solutions to Climate Change

This book represents a detailed local-scale analysis of the vulnerability of socio-ecological systems to climate change, experiences and lessons from community-based adaptation efforts, advantages of agroecosystem-based adaptation planning, and provides useful insights.
About how communities could be made climate resilient. The Choke Mountain watersheds and communities are used as case study subjects. Though a local-specific study, the findings, conclusions and recommendations are valid and useful beyond the watersheds and communities studied; it is a useful edition to the limited empirical literature we have on climate change adaptation in Ethiopia. It is thus a commendable reference material for decision-makers, development practitioners and researchers alike. I would certainly recommend it to my masters and doctoral students. - Woldeamlak Bewket, Professor of Environmental Studies, Addis Ababa University" -- back of book

Ecosystem management Changes in seasonal movements and population dynamics of migratory birds in response to ongoing changes resulting from global climate changes are a topic of great interest to conservation scientists and birdwatchers around the world. Because of their dependence on specific habitats and resources in different geographic regions at different phases of their annual cycle, migratory species are especially vulnerable to the impacts of climate change. In Bird Migration and Global Change, eminent ecologist George W. Cox brings his extensive experience as a scientist and bird enthusiast to bear in evaluating the capacity of migratory birds to adapt to the challenges of a changing climate. Cox reviews, synthesizes, and interprets recent and emerging science on the subject, beginning with a discussion of climate change and its effect on habitat, and followed by eleven chapters that examine responses of bird types across all regions of the globe. The final four chapters address the evolutionary capacity of birds, and consider how best to shape conservation strategies to protect migratory species in coming decades. The rate of climate change is faster now than at any other moment in recent geological history. How best to manage migratory birds to deal with this challenge is a major conservation issue, and Bird Migration and Global Change is a unique and timely contribution to the literature.

Turn Down the Heat Ecosystems are often examined from an ecological perspective because of the importance of biodiversity and ecosystem services. Ecosystems of different types and scales are under increasing pressure due to natural and human induced changes. Climate change and the disasters it causes, are a major driver affecting ecosystems and services. Several studies have provided evidence that a healthy ecosystem helps in reducing the impacts of climate change and disasters. This book makes a case for ecosystem-based adaptation by arguing that ecosystems and its services are critical in the climate change and disaster risk reduction fields. Consequently, the monitoring and regulation of ecosystems need to be linked to a regular governance and institutional mechanism and be reflected in a more action-oriented agenda.

Climate Change and Community Resilience The recent increase in exposure to natural hazards among the communities of Bangladesh is linked to the new generation of threats posed by climate variability and change resulting from anthropogenic activity. Adaptation is not a new approach, but there are still a number of challenges inherent in adaptation and in building resilience to climate-induced threats. This document emphasizes the adoption of ecosystem-based adaptation (EbA) to climate change: restoration, enhancement, conservation and wise use of natural resources with the engagement of local communities so as to enable natural ecosystems to function properly and deliver services, which in turns builds societal resilience to the impacts of climate change. This report describes six different types of EbA currently being practiced in the coastal zone of Bangladesh, and an analysis is made in line with the ecosystem services derived from such ecosystem-based interventions. Finally, the report suggests approaches for effective planning, design and implementation of EbA schemes aimed at building social-ecological resilience.

An Ecosystem Services Approach to Assessing the Impacts of the Deepwater Horizon Oil Spill in the Gulf of Mexico

Legal Frameworks for Ecosystem-based Adaptation to Climate Change in the Pacific Islands This report focuses on the risks of climate change to development in Sub-Saharan Africa, South East Asia and South Asia. Building on the 2012 report, Turn Down the Heat: Why a 4°C Warming Must be Avoided, this new scientific analysis examines the likely impacts of present day, 2°C and 4°C warming on agricultural production, water resources, and coastal vulnerability. It finds many significant climate and development impacts are already being felt in some regions, and that as warming increases from present day (0.8°C) to 2°C and 4°C, multiple threats of increasing extreme heat waves, sea-level rise, more severe storms, droughts and floods are expected to have further severe negative implications for the poorest and most vulnerable. The report finds that agricultural yields will be affected across the three regions, with repercussions for food security, economic growth, and poverty reduction. In addition, urban areas have been identified as new clusters of vulnerability with urban dwellers, particularly the urban poor, facing significant vulnerability to climate change. In Sub-Saharan Africa, under 3°C global warming, savannas are projected to decrease from their current levels to approximately one-seventh of total land area and threaten pastoral livelihoods. Under 4°C warming, total hyper-arid and arid areas are projected to expand by 10 percent. In South East Asia, under 2°C warming, heat extremes that are virtually absent today would cover nearly 60-70 percent of total land area in northern-hemisphere summer, adversely impacting ecosystems. Under 4°C warming, rural populations would face mounting pressures from sea-level rise, increased tropical cyclone intensity, storm surges, saltwater intrusions, and loss of marine ecosystem services. In South Asia, the potential sudden onset of disturbances to the monsoon system and rising peak temperatures would put water and food resources at severe risk. Well before 2°C warming occurs, substantial reductions in the frequency of low snow years is projected to cause substantial reductions in dry season flow, threatening agriculture. Many of the worst climate impacts could still be avoided by holding warming below 2°C, but the window for action is closing rapidly. Urgent action is also needed to build resilience to a rapidly warming
world that will pose significant risks to agriculture, water resources, coastal infrastructure, and human health.

Climate Change and Cities Global warming and changes in climate will have severe and lasting impacts on national efforts to alleviate poverty and promote sustainable development. Some of the world's poorest countries and communities are the most vulnerable and are already suffering the consequences. Yet often these countries are rich in natural capital, ecosystems, and biodiversity that can contribute to solutions as they can to climate change. Biodiversity is the foundation and mainstay of agriculture, forests, and fisheries. Biological resources provide the raw materials for livelihoods, agriculture, medicines, trade, tourism, and industry. Forests, grasslands, freshwater, and marine and other natural ecosystems provide a range of services, often not recognized in national economic accounts but vital to human welfare: regulating water flows and water quality, flood control, pollination, decontamination, carbon sequestration, soil conservation, and nutrient and hydrological cycling. Current efforts to address climate change focus mainly on reducing emissions of greenhouse gases, mainly through cleaner energy strategies, and on attempting to reduce vulnerability of the communities at risk by improving infrastructure to meet new energy and water needs. This book sets out a compelling argument for including ecosystem-based approaches to mitigation and adaptation as a third essential pillar in national strategies to address climate change. Such ecosystem-based strategies can offer cost-effective, proven and sustainable solutions contributing to, and complementing, other national and regional adaptation strategies.

Transboundary water governance and climate change adaptation A s the Gulf of Mexico recovers from the Deepwater Horizon oil spill, natural resource managers face the challenge of understanding the impacts of the spill and setting priorities for restoration work. The full value of losses resulting from the spill cannot be captured, however, without consideration of changes in ecosystem services - the benefits delivered to society through natural processes. An Ecosystem Services Approach to Assessing the Impacts of the Deepwater Horizon Oil Spill in the Gulf of Mexico discusses the benefits and challenges associated with using an ecosystem services approach to damage assessment, describing potential impacts of response technologies, exploring the role of resilience, and offering suggestions for areas of future research. This report illustrates how this approach might be applied to coastal wetlands, fisheries, marine mammals, and the deep sea - each of which provide key ecosystem services in the Gulf -- and identifies substantial differences among these case studies. The report also discusses the suite of technologies used in the spill response, including burning, skimming, and chemical dispersants, and their possible long-term impacts on ecosystem services.

Experiences of Climate Change Adaptation in Africa In Transboundary Governance of Biodiversity, African and European specialists provide a critical and comprehensive analysis of the international and regional regulatory frameworks and associated issues pertaining to the transboundary governance of biodiversity.

Framing ecosystem-based adaptation to climate change Due to its vulnerability to a wide variety of climate change impacts, Bangladesh has become a laboratory for adaptation and resilience strategies in the developing world. The knowledge shared by experienced practitioners who have a deep understanding of the complex context of this country is an invaluable resource. The International Centre for Climate Change and Development has brought together a host of experts across multiple disciplines to provide a detailed look at Bangladesh's ongoing struggle to prepare for the inevitable threats that climate change poses. This volume presents public policy-oriented strategies across numerous sectors, including agriculture, freshwater management, forests, finance, human rights, health systems, flood control, infrastructure, solar energy, and more. Successes and shortcomings both provide useful lessons for other countries grappling with similar climate threats. This book offers the latest research findings for a wider audience. - Showcasing the wealth of experience with adaptation and resilience in Bangladesh- Drawing from expert practitioners across the numerous sectors affected by climate change- Highlighting key lessons for other Least Developed Countries.

Experiences from SGP A s climate change adaptation rises up the international policy agenda, matched by increasing funds and frameworks for action, there are mounting questions over how to ensure the needs of vulnerable people on the ground are met. Community-based adaptation (CBA) is one growing proposal that argues for tailored support at the local level to enable vulnerable people to identify and implement appropriate community-based responses to climate change themselves. Community Based Adaptation to Climate Change: Scaling it up explores the challenges for meeting the scale of the adaptation challenge through CBA. It asks the fundamental questions: How can we draw replicable lessons to move from place-based projects towards more programmatic adaptation planning? How does CBA fit with larger scale adaptation policy and programmes? How are CBA interventions situated within the institutions that enable or undermine adaptive capacity? Combining the research and experience of prominent adaptation and development theorists and practitioners, this book presents cutting edge knowledge that moves the debate on CBA forward towards effective, appropriate, and 'scaled-up' adaptive action.

Bird Migration and Global Change With climate change now a certainty, the question is how much change there will be and what can be done about it. One of the answers is through adaptation. Many of the lessons that are being learned in adaptation are from success stories from the field. This publication contains eleven case studies covering...
different ecosystems and regions around the world. Its aim is to summarize some current applications of the Ecosystem-Based Adaptation concept and its tools used around
the world, and also draw lessons from experiences in conservation adaptation.

Socio-Ecological Resilience to Climate Change in a Fragile Ecosystem This book provides an introduction to the critical role of ecosystem-based disaster risk resilience (Eco-DRR) for building community resilience to multiple environmental risks such as rising heat, water stress, and pollution. Blue-green infrastructure (BGI) is an Eco-DRR tool that is an under-explored paradigm and can respond as one common strategy to targets set by the Sustainable Development Goals (UNDP), Climate Agreements (UNEP), the Sendai Framework (UNISDR), and the New Urban Agenda (UNCHS). Highlighted here in a systematic way is the importance of blue-green infrastructures in resilience building. The purpose is to introduce readers to the challenging context of development and opportunity creation for Eco-DRR. The roles of policy, scientific research, and implementation are presented cohesively. A km attractive proposition of the book is a collection of case studies from different parts of the world where integration of BGI is experimented with at various levels of success. It envisages that shared tacit experiences from the realm of practice will further strengthen explicit knowledge. The focus in this book is on need and context building, policy and science (investigation, analysis, and design), case studies, and a road map for the future in four successive parts. Each part is self-sufficient yet linked to its predecessor, successor, or both, as the case may be.

Ecosystem-Based Disaster and Climate Resilience Ecosystem-Based Adaptation: Approaches to Sustainable Management of Aquatic Resources presents a close examination of the role of ecosystem-based adaptation in managing river basins, aquifers, flood plains and their vegetation to provide water storage and flood regulation. Furthermore, the book explores improved ecosystem-based services for managing floods, conservation of water and its resources (including watersheds), avoiding water scarcity, and ensuring long-term water security planning, all in the context of sustainable development goals. This book will help scientists pave the way for easy implementation of sustainable development goals, ensuring a secure and sustainable future. Presents information in an easy-to-follow manner using tables, figures and graphs where applicable, along with case studies from all continents Provides a reference for experts to use as an authoritative source to support environmental action and regulation Defines the role of ecosystem-based adaptation in sustainable management and in the restoration of watershed forests and wetlands

Strengthening Community and Ecosystem Resilience Against Climate Change Impacts Adaptation is the poor cousin of the climate change challenge -the glamour of international debate is around global mitigation agreements, while the bottom-up activities of adaptation, carried out in community halls and local government offices, are often overlooked. Yet, as international forums fail to deliver reductions in greenhouse gas emissions, the world is realising that effective adaptation will be essential across all sectors to deal with the unavoidable impacts of climate change. The need to understand how to adapt effectively, and to develop appropriate adaptation options and actions, is becoming increasingly urgent. This book reports the current state of knowledge on climate change adaptation, and seeks to expose and debate key issues inadaptation research and practice. It is framed around a number of critical areas of adaptation theory and practice, including: Advances in adaptation thinking, Enabling frameworks and policy for adaptation, Engaging and communicating with practitioners, Key challenges in adaptation and development, Management of natural systems and agriculture under climate change, Ensuring water security under a changing climate, Urban infrastructure and livelihoods, and The nexus between extremes, disaster management and adaptation. It includes contributions from many of the leading thinkers and practitioners in adaptation today. The book is based on key contributions from the First International Conference on Climate Change Adaptation ‘Climate Adaptation Futures’, held on the Gold Coast, Australia, in June 2010. That three-day meeting of over 1000 researchers and practitioners in adaptation from 50 countries was the first of its kind. Readership: The book is essential reading for a wide range of individuals involved in climate change adaptation, including: Researchers, Communication specialists, Decision-makers and policy makers (e.g. government staff, local council staff), On-ground adaptation practitioners (e.g. aid agencies, government workers, NGOs), Postgraduate and graduate students, and Consultants.

Planning for Ecosystem Services in Cities

Community-Based Adaptation to Climate Change The Lake Chilwa Basin Climate Change Adaptation Programme was a seven-year research and development programme in Malawi that concluded in March 2017. The programme was designed to protect the livelihoods of the population and enhance resilience of the natural resource base upon which it depends. The Lake Chilwa Basin is an important wetland ecosystem which is a designated Ramsar Site under the Ramsar Wetland Convention and a Man and Biosphere Reserve designated by UNESCO. This book provides a review of the research and programme interventions done based on the ecosystem approach (EA), a strategy for the integrated management of land, water and living resources. This is designed to promote biodiversity conservation and sustainable use in an equitable way in its implementation of mitigation and climate change adaptation interventions. It is shown how: local and district institutions were strengthened to better manage natural resources and build resilience to climate change; cross-basin and cross-sector natural resource management and planning for climate change throughout the Basin were built; household and enterprise adaptive capacity in Basin hotspots was built; and improved forest management and governance contributed to mitigating the effects of
climate change. The study followed all the twelve key EA principles with involvement of all key stakeholders. It is one of the first programmes to apply EA on such a wide temporal and spatial scale and provides key lessons to be learned for the protection of other fragile ecosystems in an era of climate change.

Tourism Resilience and Adaptation to Environmental Change This book is a compilation of recent developments in the field of ecosystem-based disaster risk reduction and climate change adaptation (Eco-DRR/CCA) globally. It provides further evidence that ecosystem-based approaches make economic sense, and showcases how research has progressively filled knowledge gaps about translating this concept into practice. It presents a number of methods, and tools that illustrate how Eco-DRR/CCA has been applied for various ecosystems and hazard contexts around the world. It also discusses how innovative institutional arrangements and policies are shaping the field of Eco-DRR/CCA. The book is of relevance to scientists, practitioners, policy-makers and students in the field of ecosystem management for disaster risk reduction and climate change adaptation.

Ecosystem-based Adaptation Focuses on the approaches to climate change adaptation which are community-based and participatory. This title highlights the participatory methods to help communities analyze the causes and effects of climate change, integrate scientific and community knowledge, and plan appropriate adaptation measures.

Convenient Solutions to an Inconvenient Truth The idea that nature provides services to people is one of the most powerful concepts to have emerged over the last two decades. It is shaping our understanding of the role that biodiverse ecosystems play in the environment and their benefits for humankind. As a result, there is a growing interest in operational and methodological issues surrounding ecosystem services amongst environmental managers, and many institutions are now developing teaching programmes to equip the next generation with the skills needed to apply the concepts more effectively. This handbook provides a comprehensive reference text on ecosystem services, integrating natural and social science (including economics). Collectively the chapters, written by the world's leading authorities, demonstrate the importance of biodiversity for people, policy and practice. They also show how the value of ecosystems to society can be expressed in monetary and non-monetary terms, so that the environment can be better taken into account in decision making. The significance of the ecosystem service paradigm is that it helps us redefine and better communicate the relationships between people and nature. It is shown how these are essential to resolving challenges such as sustainable development and poverty reduction, and the creation of a green economy in developing and developed world contexts.

Transboundary Governance of Biodiversity This open access book documents myriads of ways community-based climate change adaptation and resilience programs are being implemented in South Asian countries. The narrative style of writing in this volume makes it accessible to a diverse audience from academics and researchers to practitioners in various governmental, non-governmental and international agencies. At a time when climate change presents humanity with a gloomy future, the stories of innovation, creativity, grassroots engagement and locally applicable solutions highlighted in this book provides insights into hopeful ways of approaching climate solutions. South Asian countries have been dealing with the impact of climate change for decades and thus offer valuable learning opportunities for developing countries within and beyond the region as well as many western countries that are confronting the wrath of climate induced natural disasters more recently. SANDEE has been a pioneer in the development of research and training in environmental economics and related issues in South Asia and Prof Maler has been throughout SANDEE's history, its mentor, and its strongest supporter. Many young economists in South Asia have significantly benefited from Prof Maler's guidance and inputs. The present volume on "Climate Change and Community Resilience: Insights from South Asia" is a fitting tribute and an excellent reflection of Prof Maler's contributions to the SANDEE programme throughout his association. - Mahesh Banskota, Ph.D. Professor, Development Studies School of Arts, Kathmandu University This comprehensive volume aptly identifies grassroots initiatives as the core of the problem of adaptation to climate change. The analysis of the different processes to climate change is lucid, inclusive, and full of interesting detail. The methodologies used and the subjects covered span a range of frameworks and narratives. Put together, the studies are a fitting tribute to Karl-Goran Maler, who spent years putting his impeccable expertise to use for the cause of enhancing research in South Asia. - Kanchan Chopra, Ph.D. Former Director and Professor, Institute of Economic Growth, Delhi, and Fellow, SANDEE The slow international policy response to climate change elevates the importance of understanding how communities can respond to climate change's many threats. This unusually accessible volume provides that understanding for South Asia while being relevant to the rest of the world. Its emphasis on research by scholars from the region makes it a wonderful tribute to Prof. Karl-Goran Maler, who contributed so much to the growth of environmental economics research capacity in South Asia. - Jeffrey R. Vincent, Ph.D. Clarence F. Korstian Professor of Forest Economics & Management Nicholas School of the Environment, Duke University, USA

Community-Based Adaptation to Climate Change

Community-Based Adaptation to Climate Change The uptake of ecosystem-based approaches for disaster risk reduction (DRR) is slow, however, despite some success
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Ecosystem-Based Adaptation Community Environment And Disaster Risk Management

Climate Change Adaptation in Africa In recent years, resilience theory has come to occupy the core of our understanding and management of the adaptive capacity of people and disaster management communities typically work independently from each other; its contribution to DRR is highly undervalued compared to engineered solutions and therefore not given appropriate budget allocations; and there are poor interactions between policymakers and researchers, leading to unclear and sometimes contradictory scientific information on the role of ecosystems for DRR. The aim of this book is to provide an overview of knowledge and practice in this multidisciplinary field of ecosystems management and DRR. The contributors, professionals from the science and disaster management communities around the world, represent state-of-the-art knowledge, practices, and perspectives on the topic.

Community-based adaptation The Urban Climate Change Research Network's Second Assessment Report on Climate Change in Cities (ARC3.2) is the second in a series of global, science-based reports to examine climate risk, adaptation, and mitigation efforts in cities. The book explicitly seeks to explore the implications of changing climatic conditions on critical urban physical and social infrastructure sectors and intersectoral concerns. The primary purpose of ARC3.2 is to inform the development and implementation of effective urban climate change policies, leveraging ongoing and planned investments for populations in cities of developing, emerging, and developed countries. This volume, like its predecessor, will be invaluable for a range of audiences involved with climate change and cities: mayors, city officials and policymakers; urban planners; policymakers charged with developing climate change mitigation and adaptation programs; and a broad spectrum of researchers and advanced students in the environmental sciences.

Ecosystem-Based Disaster Risk Reduction and Adaptation in Practice This open access book presents current knowledge about ecosystem services (ES) in urban planning, and discusses various urban ES topics such as spatial distribution of urban ecosystems, population distribution, and physical infrastructure properties. The book addresses all these issues by: i) investigating to what extent ecosystem services are currently included in urban plans, and discussing what is still needed to improve planning practice; ii) illustrating how to develop ecosystem services indicators and information that can be used by urban planners to enhance plan design; iii) demonstrating the application of ES assessments to support urban planning processes through case studies; and iv) reflecting on criteria for addressing equity in urban planning through ecosystem service assessments, by exploring issues associated with the supply of, the access to and demand for ES by citizens. Through fully worked out case studies, from policy questions, to baseline analysis and indicators, and from option comparison to proposed solutions, the book offers readers detailed and accessible coverage of outstanding issues and proposed solutions to better integrate ES in city planning. The overall purpose of the book is to provide a compact reference that can be used by researchers as a key resource offering an updated perspective and overview on the field, as well as by practitioners and planners/decision makers as a source of inspiration for their activity. A didactically, the book will be a suitable resource for both undergraduate and post-graduate courses in planning and geography.

Ecosystem-Based Adaptation Over the past few decades, the frequency and severity of natural and human-induced disasters have increased across Asia. These disasters lead to substantial loss of life, livelihoods and community assets, which not only threatens the pace of socio-economic development, but also undo hard-earned gains. Extreme events and disasters such as floods, droughts, heat, fire, cyclones and tidal surges are known to be exacerbated by environmental changes including climate change, land-use changes and natural resource degradation. Increasing climate variability and multi-dimensional vulnerabilities have severely affected the social, ecological and economic capacities of the people in the region who are, economically speaking, those with the least capacity to adapt. Climatic and other environmental hazards and anthropogenic risks, coupled with weak and wavering capacities, severely impact the ecosystems and Nature’s Contributions to People (NCP) and, thereby, to human well-being. Long-term resilience building through disaster risk reduction and integrated adaptive climate planning, therefore, has become a key priority for scientists and policymakers alike. Nature-based Solutions (NbS) is a cost-effective approach that utilizes ecosystem and biodiversity services for disaster risk reduction and climate change adaptation, while also providing a range of co-benefits like sustainable livelihoods and food, water and energy security. This book discusses the concept of Nature-based Solutions (NbS) – both as a science and as art - and elaborates on how it can be applied to develop healthy and resilient ecosystems locally, nationally, regionally and globally. The book covers illustrative methods and tools adopted for applying NbS in different countries. The authors discuss NbS applications and challenges, research trends and future insights that have wider regional and global relevance. The aspects covered include: landscape restoration, ecosystem-based adaptation, ecosystem-based disaster risk reduction, ecological restoration, ecosystem-based protected areas management, green infrastructure development, nature-friendly infrastructure development in various ecosystem types, agro-climatic zones and watersheds. The book offers insights into understanding the sustainable development goals (SDGs) at the grass roots level and can help indigenous and local communities harness ecosystem services to help achieve them. It offers a unique, essential resource for researchers, students, corporations, administrators and policymakers working in the fields of the environment, geography, development, policy planning, the natural sciences, life sciences, agriculture, health, climate change and disaster studies.

Climate Change Adaptation in Africa In recent years, resilience theory has come to occupy the core of our understanding and management of the adaptive capacity of people
Climate Change Adaptation Strategies – An Upstream-downstream Perspective This open access book brings together research findings and experiences from science, policy and practice to highlight and debate the importance of nature-based solutions to climate change adaptation in urban areas. Emphasis is given to the potential of nature-based approaches to create multiple-benefits for society. The expert contributions present recommendations for creating synergies between ongoing policy processes, scientific programmes and practical implementation of climate change and nature conservation measures in global urban areas. Except where otherwise noted, this book is licensed under a Creative Commons Attribution 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/

Building Resilience to Climate Change A s climate change adaptation rises up the international policy agenda, matched by increasing funds and frameworks for action, there are mounting questions over how to ensure the needs of vulnerable people on the ground are met. Community-based adaptation (CBA) is one growing proposal that argues for tailored support at the local level to enable vulnerable people to identify and implement appropriate community-based responses to climate change themselves. Community Based Adaptation to Climate Change: Scaling it up explores the challenges for meeting the scale of the adaptation challenge through CBA. It asks the fundamental questions: How can we draw replicable lessons to move from place-based projects towards more programmatic adaptation planning? How does CBA fit with larger scale adaptation policy and programmes? How are CBA interventions situated within the institutions that enable or undermine adaptive capacity? Combining the research and experience of prominent adaptation and development theorists and practitioners, this book presents cutting edge knowledge that moves the debate on CBA forward towards effective, appropriate, and ’scaled-up’ adaptive action.

Confronting Climate Change in Bangladesh Community-based adaptation (CBA) to climate change is based on local priorities, needs, knowledge and capacities. Early CBA initiatives were generally implemented by non-government organisations (NGOs), and operated primarily at the local level. Many used ’bottom-up’ participatory processes to identify the climate change problem and appropriate responses. Small localized stand-alone initiatives are insufficient to address the scale of challenges climate change will bring, however. The causes of vulnerability - such as market or service access, or good governance - also often operate beyond the project level. Larger organisations and national governments have therefore started to implement broader CBA programmes, which provide opportunities to scale up responses and integrate CBA into higher levels of policy and planning. This book shows that it is possible for CBA to remain centred on local priorities, but not necessarily limited to work implemented at the local level. Some chapters address the issue of mainstreaming CBA into government policy and planning processes or into city or sectoral level plans (e.g. on agriculture). Others look at how gender and children’s issues should be mainstreamed into adaptation planning itself, and others describe how tools can be applied, and finance delivered for effective mainstreaming. This book was published as a special issue of Climate and Development.

Ecosystem-based Adaptation

Using Shadow Prices Ecosystems are often examined from a ecological perspective because of the importance of biodiversity and ecosystem services. This book makes a case for ecosystem-based adaptation by arguing that ecosystems and its services are critical in the climate change and disaster risk reduction fields.

Nature-based Solutions for Resilient Ecosystems and Societies This report is primarily directed to analysing the legal aspects of ecosystem-based adaptation to climate change. It sketches the impacts of climate change in the Pacific Island countries, recognizing that climate change directly impacts ecosystems, which provide for the needs of people as well as for the maintenance of the natural environment. It takes as a given that ecosystem-based adaptation can provide cost-effective strategies for reducing vulnerability to climate change impacts and enhancing ecosystem resilience, thereby maintaining ecosystem services and sustainable livelihoods. The report is written in light of the research reports completed by SPREP and Conservation International for this project (SPREP and Conservation International 2011). An essential aspect of the legal analysis is an examination of the way in which environmental governance operates in Pacific Island countries. The analysis is directed both to current formal legal systems as
well as to customary mechanisms at the community level, exploring both potential barriers as well as the possibilities in the national legislation for achieving the aims of ecosystem-based adaptation strategies. The report includes six brief legal case studies of more or less representative Pacific Island countries. The case studies provide a snapshot of the relevant legal frameworks in the selected jurisdictions in order to assess the suitability of those frameworks for providing a legally robust basis for ecosystem-based adaptation. The report shows that appropriate legal mechanisms developed at the national level can play a key role in promoting adaptation, especially through restoring and maintaining ecosystem resilience, to address the effects of climate change.

Climate Adaptation Futures This collection showcases experiences from research and field projects in climate change adaptation on the African continent. It includes a set of papers presented at a symposium held in Addis Ababa in February 2016, which brought together international experts to discuss “fostering African resilience and capacity to adapt.” The papers introduce a wide range of methodological approaches and practical case studies to show how climate change adaptation can be implemented in regions and countries across the continent. Responding to the need for more cross-sectoral interaction among the various stakeholders working in the field of climate change adaptation, the book fosters the exchange of information on best practices across the African continent.

The Role of Ecosystems in Disaster Risk Reduction

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