Land Degradation And Society

The constant growth of the world ' s population and the decline of the availability of land and soil resources are global concerns for food security. Other concerns are the decrease in productivity and delivery of essential ecosystems services because of the decline of soil quality and health by a range of degradation processes. Key soil properties like soil bulk density, organic carbon concentration, plant available water capacity, infiltration rate, air porosity at field moisture capacity, and nutrient reserves, are crucial properties for soil functionality which refers to the capacity of soil to perform numerous functions. These functions are difficult to measure directly and are estimated through indices of soil quality and soil health. Soil degradation, its extent and severity, can also be estimated by assessing indices of soil quality and health. "Geospatial Technology for Land Degradation Assessment and Management" uses satellite imagery and remote sensing technologies to measure landscape parameters and terrain attributes. Remote sensing and geospatial technologies are important tools in assessing the extent and the severity of land and soil degradation, their temporal changes, and geospatial distribution in a timely and cost-effective manner. The knowledge presented in the book by Dr. R.S. Dwivedi shows how remote sensing data can be utilized for inventorying, assessing, and monitoring affected ecosystems and how this information can be integrated in the models of different local settings. Through many land degradations studies, land managers, researchers, and policymakers will find practical applications of geospatial technologies and future challenges. The information presented is also relevant to advancing the Sustainable Development Goals of the United Nations towards global food security.

Understanding deserts and drylands is essential, as arid landscapes cover >40% of the Earth and are home to two billion people. Today's problematic environment – human interaction needs contemporary knowledge to address dryland complexity. Physical dimensions in arid zones—land systems, climate and hazards, ecology—are linked with social processes that directly impact drylands, such as land management, livelihoods, and development. The challenges require integrated research that identifies systemic drivers across global arid regions. Measurement and monitoring, field investigation, remote sensing, and data analysis are effective tools to investigate natural dynamics. Equally, inquiry into how policy and practice affect landscape sustainability is key to mitigating detrimental activity in deserts. Relations between socio-economic forces and degradation, agro-pastoral rangeland use, drought and disaster and resource extraction reflect land interactions. Contemporary themes of food security, conflict, and conservation are interlinked in arid environments. This book unifies desert science, arid environments, and dryland development. The chapters identify land dynamics, address system risks and delineate human functions through original research in arid zones. Mixed methodologies highlight the vital links between social and environmental science in global deserts. The book engages with today's topical themes and presents novel analyses of arid land systems and societies.

Land Degradation and SocietyRoutledge

This work is intended for advanced readers interested in methods of sustainable land management - the prevention and control of land degradation. It offers a coherent view of the situation concerning land degradation and the human response to the problem. It is generally recognized that technological solutions alone cannot solve the problems of land degradation. This book discusses the role of land use and land management policies, programmes, insitutional innovations, and economic incentives for the control and prevention of land degradation. Special attention is given to legal issues at the international level and in individual countries.

Building a Stable Base for Agriculture

Problems and Policies

Marginality

Environment and Society in Ethiopia

Environment, Development and Social Movements

Environmental Degradation in China

Violence and insecurity are among the most important issues facing communities in the 21st century. Both family violence and community violence are rapidly rising in the urbanizing nations of the 'South', and richer nations are also facing increased conce

Dirt, soil, call it what you want—it's everywhere we go. It is the root of our existence, supporting our feet, our farms, our cities. This fascinating yet disquieting book finds, however, that we are running out of dirt, and it's no laughing matter. An engaging natural and cultural history of soil that sweeps from ancient civilizations to modern times, Dirt: The Erosion of Civilizations explores the compelling idea that we are—and have long been—using up Earth's soil. Once bare of protective vegetation and exposed to wind and rain, cultivated soils erode bit by bit, slowly enough to be ignored in a single lifetime but fast enough over centuries to limit the lifespan of civilizations. A rich mix of history, archaeology and geology, Dirt traces the role of soil use and abuse in the history of Mesopotamia, Ancient Greece, the Roman Empire, China, European colonialism, Central America, and the American push westward. We see how soil has shaped us and we have shaped soil—as society after society has risen, prospered, and plowed through a natural endowment of fertile dirt. David R. Montgomery sees in the recent rise of organic and no-till farming the hope for a new agricultural revolution that might help us avoid the fate of previous civilizations.

The peri-urban interface in poor countries is frequently an area of great dynamism and a focus of competition for basic resources. In Nigeria, peri-urban livelihood strategies have become an increasingly important survival mechanism in the context of rapid urban growth. This book uses an innovative combination of methodologies from both the natural and social sciences to examine recent developments in and around the city of Kano in northern Nigeria, and in doing so, provides insights into the sustainability of these livelihood strategies. Identifying some of the most significant forces that are currently shaping the process of peri-urban change, it argues that, despite the adoption of creative and ingenious strategies by many farmers, urban growth is having a considerable effect on the livelihood resilience of individuals, households and communities. The findings presented in this book have much wider relevance and are transferable to other burgeoning Third World cities where increased pressures on urban hinterlands have intensified contests amongst various actors, made access to resources much more difficult and made traditional smallholder mechanisms of adaptation and resilience increasingly challenging.

As China strives to significantly increase its economic output, the nation faces an acute deterioration of the physical resources from which this prodigious growth springs. Major problems include water shortages, the pollution of water, high levels of carcinogens in the air, accelerating erosion, and industrial pollution. Originally published in 1984, Vaclav Smil documents and evaluates China's environmental crisis. This title will be of particular interest for students of Environmental Studies and Development Studies.

The Bad Earth

Change and Challenges in Kano Nigeria

Perception from the Village

Geospatial Technologies for Land Degradation Assessment and Management

Soil Degradation in the United States

Toxic Politics

Liberation Ecologies brings together some of the most exciting theorists in the field to explore the impact of political ecology in today's developing world. The book casts new light on the crucial interrelations of development, social movements and the environment in the South - the 'bigger' half of our planet - and raises questions and hopes about change on the global scale. The in-depth case material is drawn from across the Developing World, from Latin America, Africa and Asia. The issues raised in contemporary political, economic and social theory are illustrated through these case studies. Ultimately, Liberation Ecologies questions what we understand by 'development', be it mainstream or alternative, and seeks to renew our sense of nature's range of possibilities.

Based on an International Workshop held in Arusha, Tanzania, this book presents state-of-the-art papers, real world applications, and innovative techniques for combating land degradation. It offers recommendations for effectively using weather and climate information for sustainable land management practices.

First published in 1985. This book examines wide variety of ways in which environmental deterioration, in particular soil erosion, can be viewed and the implicit political judgements that often inform them. Using the context of developing countries, where the effects tend to be more acute due to underdevelopment and climatic factors, this work aims to examine this source of uncertainty and make explicit the underlying assumptions in the debate about soil erosion. It also rejects the notion that soil erosion is a politically neutral issue and argues that conservation requires fundamental social change. This title will be of interest to students of environmental and developmental studies.

World Bank Technical Paper No. 280. Addresses the need to improve the administration of justice in Latin America and the Caribbean and provides effective strategies for reform. Judicial reform is a new area of interest for the World Bank. This book addresses the need to improve the administration of justice in Latin America and the Caribbean and provides effective strategies for reform. The report combines the experiences of more than 20 countries in their effort to enhance the quality and efficiency of their judicial systems. The authors highlight the importance of the judiciary in economic development, with a particular focus on court administration, the judicial institutional framework, alternative dispute resolution mechanisms, procedural reforms, access to justice, and the role of the legal profession.

China's Environmental Health Crisis and its Challenge to the Chinese State

Liberation Ecologies

Land Degradation and Society

The Dialectics of Devastation

An Introduction

Land Degradation & Society

An effective response to contemporary environmental problems demands an approach that integrates political, economic and ecological issues. Third World Political Ecology provides an introduction to an exciting new research field that aims to develop an integrated understanding of the political economy of environmental change in the Third World. The authors review the historical development of the field, explain what is distinctive about Third World political ecology, and suggest areas for future development. Clarifying the essentially politicised condition of environmental change today, the authors explore the role of various actors - states, multilateral institutions, businesses, environmental non-governmental organisations, poverty-stricken farmers, shifting cultivators and other 'grassroots' actors - in the development of the Third World's politicised environment. Third World Political Ecology is the first major attempt to explain the development and characteristics of environmental problems that plague parts of Asia, Africa and Latin America. Drawing on examples from throughout the Third World, the book will be of interest to all those who wish to understand the political and economic bases of the Third World's current predicament.

This volume examines the United Nations Convention to Combat Desertification (UNCCD) signed in 1994. It studies the links between land degradation and poverty, the role of civil society and good governance in implementing the UNCCD and the various approaches to fighting desertification.

As political, economic, and environmental issues increasingly spread across the globe, the science of geography is being rediscovered by scientists, policymakers, and educators alike. Geography has been made a core subject in U.S. schools, and scientists from a variety of disciplines are using analytical tools originally developed by geographers. Rediscovering Geography presents a broad overview of geography's renewed importance in a changing world. Through discussions and highlighted case studies, this book illustrates geography's impact on international trade, environmental change, population growth, information infrastructure, the condition of cities, the spread of AIDS, and much more. The committee examines some of the more significant tools for data collection, storage, analysis, and display, with examples of major contributions made by geographers. Rediscovering Geography provides a blueprint for the future of the discipline, recommending how to strengthen its intellectual and institutional foundation and meet the demand for geographic expertise among professionals and the public.

China's deepening health crisis reveals the fragility of the party-state and undercuts China's ability to project influence internationally.

Combating Desertification and Land Degradation

Spatial Strategies Using Vegetation

Dirt

Addressing the Nexus of Poverty, Exclusion and Ecology

Toward a Framework for Monitoring Land Degradation in Rwanda

Exploring Agrodiversity

Ethiopia is facing environmental and poverty challenges, and urgently needs effective management of its environmental resources. Much of the Ethiopian landscape has been significantly altered and reshaped by centuries of human activities, and three-quarters of the rural population is living on degraded land. Over the past two decades the country has seen rapid economic and population growth and unparalleled land use change. This book explores the challenges of sustaining the resource base while fuelling the economy and providing for a growing population that is greatly dependent on natural resources for income and livelihoods. Adopting a political ecology perspective, this book comprehensively examines human impacts on the environment in Ethiopia, defining the environment both in terms of the quantity and quality of renewable and non-renewable natural resources. With high levels of economic production and consumption also come unintended side effects: waste discharges, emissions of pollutants, and industrial effluents. These pollutants can degrade the quality of water, air, land, and forests as well as harm the health of people, animals, and other living organisms if untreated or disposed of improperly. This book demonstrates how the relationship between society and environment is inherently and delicately interwoven, providing an account of Ethiopia's current environment and natural resource base and future considerations for environmentally sustainable development.

This work is intended for advanced readers interested in methods of sustainable land management - the prevention and control of land degradation. It offers a coherent view of the situation concerning land degradation and the human response to the problem. It is generally recognized that technological solutions alone cannot solve the problems of lan

Soil degradation is a widespread problem in Africa resulting in decreased agricultural productivity while demand for food continues to increase. Degradation is caused by accelerated erosion, acidification, contamination, depletion of soil organic matter and plant nutrients, and salinization. The major cause of soil degradation in Africa is uncontrolled and excessive grazing in the savanna regions followed by deforestation and the use of inappropriate and extractive farming practices. Perpetual neglect of the health of soils in Africa can exacerbate the already serious problems of food and nutritional insecurity and environmental degradation. Food and nutritional security of the growing population of Africa can only be achieved if degraded soils are restored and soils of agroecosystems are managed prudently and sustainably. Ignoring soils and taking the fragile, finite and precious soil resources for granted is the principal cause of poverty, hunger, and environmental degradation. The downward spiral must be reversed through soil restoration measures based on translating science into action. This book describes the soils of Africa, processes of soil degradation, extent and severity of soil degradation, and the impacts of degradation processes on food and nutritional security. Features: Explores the extent and severity of soil degradation in Africa Analyzes the cause–effect relationship between anthropogenic activities and soil degradation Reviews processes of soil degradation in Africa including erosion, salinization, nutrient depletion, and decline of soil organic matter Addresses the effect of climate change on soil degradation in Africa. Explains how soil degradation causes food and nutritional insecurity Part of the Advances in Soil Sciences series, this volume is specifically devoted to the processes and factors that cause soil degradation and the challenges and potential for remediation and restoration of soil health in Africa.

Presenting Agrodiversity; Diversity within land rotational systems; Paths of transformation; The future of Agrodiversity.

Mitigating Land Degradation and Improving Livelihoods

Soil Degradation and Restoration in Africa

Governing Global Desertification

Response to Land Degradation

Linking Environmental Degradation, Poverty and Participation

Urban Growth and Land Degradation in Developing Cities

The research presented in this book demonstrates how an integrated 'systems' approach to farming in the watershed context increases the effectiveness of a production system and improves people's livelihoods. It takes an integrated approach, using one watershed in Ethiopia as a 'laboratory' or model case study to focus on the interaction and interdependence between land, water, crops, soil, water harve supplemental irrigation, forestry, socio-economic aspects, livestock and farm tools. A range of linked studies was conducted with active participation of the farming community and other relevant stakeholders, such as the local offices of agriculture and extension services. The starting point for the work was the premise that previous efforts to solve farming system constraints using a piecemeal approach or discipline-specific focus have not been successful. Thus, addressing agricultural and environmental constraints through a holistic approach enables the generation of comprehensive technologies to sustainably improve the natural resource base and livelihoods of communities. The authors discuss trade-offs and resource allocation, demonstrating how the environment can be protected while also improving productivity. A unique feature is the methodology developed for the selection of suitable fields and farmers to implement new approaches or improved technologies, to achieve production increases while reducing degradation of sensitive agro-ecosystems. It is also shown how the watershed scale is a valuable basis for assessing the protection of fragile lands.

Degradation of soils continues at a pace that will eventually create a local, regional, or even global crisis when diminished soil resources collide with increasing climate variation. It's not too late to restore our soils to a more productive state by rediscovering the value of soil management, building on our well-established and ever-expanding scientific understanding of soils. Soil management concepts have be place since the cultivation of crops, but we need to rediscover the principles that are linked together in effective soil management. This book is unique because of its treatment of soil management based on principles—the physical, chemical, and biological processes and how together they form the foundation for soil management processes that range from tillage to nutrient management. Whether new to so or needing a concise reference, readers will benefit from this book's ability to integrate the science of soils with management issues and long-term conservation efforts.

This volume deals with land degradation, which is occurring in almost all terrestrial biomes and agro-ecologies, in both low and high income countries and is stretching to about 30% of the total global land area. About three billion people reside in these degraded lands. However, the impact of land degradation is especially severe on livelihoods of the poor who heavily depend on natural resources. The annu global cost of land degradation due to land use and cover change (LUCC) and lower cropland and rangeland productivity is estimated to be about 300 billion USD. Sub-Saharan Africa (SSA) accounts for the largest share (22%) of the total global cost of land degradation. Only about 38% of the cost of land degradation due to LUCC - which accounts for 78% of the US$300 billion loss – is borne by land users the remaining share (62%) is borne by consumers of ecosystem services off the farm. The results in this volume indicate that reversing land degradation trends makes both economic sense, and has multiple social and environmental benefits. On average, one US dollar investment into restoration of degraded land returns five US dollars. The findings of the country case studies call for increased investments the rehabilitation and restoration of degraded lands, including through such institutional and policy measures as strengthening community participation for sustainable land management, enhancing government effectiveness and rule of law, improving access to markets and rural services, and securing land tenure. The assessment in this volume has been conducted at a time when there is an elevated intere private land investments and when global efforts to achieve sustainable development objectives have intensified. In this regard, the results of this volume can contribute significantly to the ongoing policy debate and efforts to design strategies for achieving sustainable development goals and related efforts to address land degradation and halt biodiversity loss.

This book reports an approach developed to research and apply methods of assessing patterns of processes in the landscape, and suitability of different types of vegetation to mitigate soil erosion and sediment flux. Practical guidelines on a spatially strategic approach to management of land degradation at a range of spatial scales were produced. Originally developed for the Mediterranean environment, it much wider potential global application. It provides researchers with methods to acquire the knowledge necessary for such an approach and provides practitioners with guidance on implementation and benefits of targeted methods of soil erosion control. It includes substantial information about processes and vegetation in the Mediterranean environment and the species effectiveness in soil erosion control.

Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development

Tropical Deforestation, Land, Degradation, and Society in Rondonia, Brazil

Land Degradation in Tanzania

Third World Political Ecology

Rediscovering Geography

Land Degradation

Why does land management so often fail to prevent soil erosion, deforestation, salination and flooding? How serious are these problems, and for whom? This book, first published in 1987, sets out to answer these questions, which are still some of the most crucial issues in development today, using an approach called 'regional political ecology'. This approach acknowledges that the reason why land management can fail are extremely varied, and must include a thorough understanding of the changing natural resource base itself, the human response to this, and broader changes in society, of which land managers are a part. Land Degradation and Society is essential reading for all students of geography, agriculture, social sciences, development studies and related subjects.

The primary objective of this study has been to critically examine the dynamics of rapid deforestation and land degradation in Rondônia, Brazil. As previously emphasized, the analytical framework utilized in this essay has drawn primarily from the fields of political economy and human ecology, an approach recently described as "regional political ecology"(Blaikie and Brookfield 1987). Although characteristic of a growing body of literature focusing on the inter-relationships between human society and environmental degradation (Watts 1983, Hecht 1985, Blaikie 1985, Blaikie and Brookfield 1987, de Janvry and Garcia 1988), such an approach has not been typical of most empirical research on small-farmer settlement and land degradation in tropical forest regions. Not surprisingly then, the conclusions of the present study vary considerably with much "conventional wisdom" on similar topics. Following a brief summary of its principal observation, the conclusions of the present study are analyzed in relation to various theoretical and policy-oriented explanations of tropical deforestation and land degradation. Finally, this study concludes with suggestions for alternative policies aimed at the protection and sustainable management of Rondônia's endangered tropical forest landscapes.

This book takes a new approach on understanding causes of extreme poverty and promising actions to address it. Its focus is on marginality being a root cause of poverty and deprivation. "Marginality" is the position of people on the edge, preventing their access to resources, freedom of choices, and the development of capabilities. The book is research based with original empirical analyses at local, national, and local scales; book contributors are leaders in their fields and have backgrounds in different disciplines. An important message of the book is that economic and ecological approaches and institutional innovations need to be integrated to overcome marginality. The book will be a valuable source for development scholars and students, actors that design public policies, and for social innovators in the private sector and non-governmental organizations.

World Bank Technical Paper No. 370. Local land users and officials often have conflicting perceptions of and responses to land degradation issues. This causes problems for officials in diagnosing and addressing the issue and is a major constraint on the successful implementation of policies and projects to address land degradation. This study looks at the perception and response gap between officials and land users in the diagnosis and remedy of land degradation. It also examines the dynamics of the loss of soil fertility and low productivity at the village level. The study's findings will help shape investment programs to enhance land productivity in Sub-Saharan Africa.

Agricultural Salinity Assessment and Management

Arid Land Systems: Sciences and Societies

An Integrated Watershed Approach

The Political Economy of Soil Erosion in Developing Countries

Rethinking Research on Land Degradation in Developing Countries

Critical Political Ecology brings political debate to the science of ecology. As political controversies multiply over the science underlying environmental debates, there is an increasing need to understand the relationship between environmental science and politics. In this timely and wide-ranging volume, Tim Forsyth uses an innovative approach to apply political analysis to ecology, and demonstrates how more politicised approaches to science can be used in environmental decision-making. Critical Political Ecology examines: *how social and political factors frame environmental science, and how science in turn shapes politics *how new thinking in philosophy and sociology of science can provide fresh insights into the biophysical causes and impacts of environmental problems *how policy and decision-makers can acknowledge the political influences on science and achieve more effective public participation and governance.

This book contains selected contributions from the Sixth Meeting of the International Geographical Union's Commission on Land Degradation and Desertification, held in Perth, Australia, in September 1999. Collectively, these contributions explicitly seek to understand not only the mechanisms responsible for the problem of land degradation but their social and economic implications, the means of overcoming the problems, and the policy instruments whereby remedial measures may be implemented. This breadth of approach is both distinctive and essential if the problems are to be tackled effectively. The authorship comprises of specialists (mostly geographers) from universities, research organizations, and government agencies, who provide a truly international perspective with contributions from Iceland to Australia and from the USA to Japan. Audience: The book presents current research findings which will be of particular benefit to professionals and practitioners, as well as researchers and tertiary-level educationalists who are involved with land degradation.

Why does land management so often fail to prevent soil erosion, deforestation, salination and flooding? How serious are these problems, and for whom? This book, first published in 1987, sets out to answer these questions, which are still some of the most crucial issues in development today, using an approach called 'regional political ecology'. This approach acknowledges that the reason why land management can fail are extremely varied, and must include a thorough understanding of the changing natural resource base itself, the human response to this, and broader changes in society, of which land managers are a part. Land Degradation and Society is essential reading for all students of geography, agriculture, social sciences, development studies and related subjects.

This book presents a broad multi-disciplinary perspective on the challenge of problems of degrading land.

The Erosion of Civilizations

Soil Degradation

Degradation of Soil, Conservation and Remediation

Soil Management

The Politics of Environmental Science

Extent, Severity, and Trends

Soil degradation is one of the major global threats. Mainly in countries like Africa, Australia, China and some part of US effects of top soil erosion are being increasingly realized. According to UNCCD, globally 2.6 billion people depend on agriculture but 52% of the land used for agriculture is moderately or severely affected by soil degradation, land degradation affects 1.5 billion people globally, due to drought and desertification annually 12 million hectares are lost where 20 million tons of grain could have been grown, 74% of the poor are directly affected by land degradation, about 1 billion people do not have sufficient food and access to safe water and It had been agreed at Rio + 20 that natural capital mainly the land resources are the foundation of our society and economy, this is a major vision of the sustainable development goals (SDG s) and 2015 development agenda of the UN. This review is conducted based on the Khan Towhid Osman's book on Soil degradation, conservation and remediation published by Springer 2014. Book summarizes the contents briefly in terms of analyzing causes, soil conservation and remediation techniques.

Soil Degradation in the United States: Extent, Severity, and Trends examines the magnitude and severity of soil degradation by different processes in the U.S., including water erosion, wind erosion, C depletion, soil compaction, salt build-up, and soil contamination. In addition, it addresses policy issues with regard to economic and environmental

Handbook for the Field Assessment of Land Degradation

New Relevance for Science and Society

Climate and Land Degradation

Critical Political Ecology