

# 2 Soil Degradation And Agricultural Production Economic

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**Soil Degradation** - Sara J. Scherr 1999

Evaluating the impact of soil degradation o food security. Past and present effects of soil degradation. Future effects of soil degradation and threats to developing-country food security. Policy and research priorities.

**Linkages Between Land Management, Land Degradation, and Poverty in Sub-Saharan Africa** - Nkonya, Ephraim 2008-01-01

Most African countries strive for both poverty reduction and sustainable land management, yet information on the exact relationship between these goals is limited. This report seeks to fill the gap by demonstrating a strong linkage between poverty and land management. Using Uganda as a case study, the authors show that certain policies, such as investments in soil and water conservation and agroforestry, may simultaneously increase productivity and reduce poverty and land degradation. Other strategies, including development of rural roads, non-farm activities, and rural finance, may reduce poverty without significantly affecting productivity or land management. Some policies, however, will likely involve trade-offs among different goals and will need to have their negative impacts minimized. Those in government, NGOs, the private sector, or academia who are concerned about sustainably reducing poverty in Sub-Saharan Africa will benefit from this analysis of how to pursue these key development goals.

**Agricultural Productivity Growth in the United States** :. - Sun Ling Wang 2015

Handbook for the Field Assessment of Land Degradation - Michael Stocking 2001

First Published in 2001. Routledge is an imprint of Taylor & Francis, an informa company.

**The Greening of Economic Policy Reform** - Jeremy J. Warford 1997

This report, in two volumes, addresses environmental impacts stemming from economy-wide policy reforms, and seeks to clarify the nature of the economic, physical, institutional, and cultural aspects of their relationship. Volume 1 summarizes the case studies and synthesizes their key principles. Volume 2 explores the case studies in full length. They reflect a wide range of country situations and environmental problems. Pollution issues are addressed, such as air quality and energy use in Poland and Sri Lanka, while a variety of natural resource-related issues are covered in the other studies: deforestation and land degradation in Costa Rica; migration and deforestation in the Philippines; agricultural land degradation due to overgrazing in Tunisia, fertility losses due to extension of cultivation areas in Ghana; water resource depletion in Morocco; and wildlife management in Zimbabwe. The case studies also use a variety of analytical methods to illustrate the different approaches to identifying the environmental implications of economy-wide reforms. These methods range from tracing the links between economic incentives and resource use through direct observation, to relying on more complex economic modeling of policies and their environmental effects. In all the studies,

however, the analytical approach uniformly requires identifying key environmental concerns and relating them to the agenda of priority sectoral and macroeconomic reforms.

**Land Degradation in India** - Ratan Priya  
2021-03-19

This book discusses land degradation in India using statistical tools such as Principal Component Analysis (PCA) and Regression Analysis (RA), and uses statistical analyses and graphical representations of the causal relationship between land degradation and land productivity to determine linkages with deforestation, climate change and agricultural productivity. While most studies of land degradation in India focus on economic outcomes and physical processes at macro and micro levels, this study addresses land degradation at the meso-level to fill in this gap and provide up-to-date information on often overlooked factors associated with land degradation issues using the latest available data. Districts in the study were selected by land degradation intensity, forming an index of the severity of land degradation in the area, with a focus on gullied lands, soil salinity/alkalinity and open and dense scrubs as indicators. Though the study areas are in India, researchers, policy makers and students around the world will be able to learn from these inputs regarding land degradation to address various challenges associated with sustainable land management and agricultural productivity.

**The Causes of Tropical Deforestation** - Katrina Brown 1994

Presents econometric analysis of tropical deforestation, quantifying and examining its local and underlying global causes, with discussion of factors such as population, debt, income and poverty, the timber trade, and agricultural development, and regional and country case studies focusing on Asia and Latin America. Of interest to students and professionals in economics, environmental science, and development studies. Annotation copyright by Book News, Inc., Portland, OR

**Food Security for African Smallholder Farmers** - Hupenyu Allan Mupambwa  
2022-02-28

This book provides a synthesis of current agricultural research in Africa with the aim of

presenting evidence based information that can be directly applied into improving the African smallholder farmers' food security. It presents positive scientific research that has been undertaken in Africa, in simpler terms, thus driving the research for development agenda contributing to the attainment of SDG 2.

Numerous research that targets resource poor African smallholder farmers has been published, yet the region faces very low productivity levels. This lack of translation from research to food security and increased agricultural incomes is due to the poor uptake of scientific research by farmers, which is partly due to poor presentation of this body of knowledge into simpler forms that extension workers and farmers can directly adopt. Therefore, this book offers research information in an easy, digestible and application oriented style, so as to enable transformation of the African agricultural sector by effectively driving agricultural productivity in Africa. This book is of interest to African extension workers, who will translate the simplified knowledge into lessons that can be useful to smallholder farmers. The book is also beneficial for policy makers as well as academics, researchers and other science based professionals.

**Understanding Land Degradation** - Stanley Weeraratna 2022

Much of the earth's population is dependent on agriculture as it provides food for their sustenance. Successful crop production depends to a considerable extent on land and climate. Soil is the main component of land and a fertile soil is essential for crop growth. However, soil fertility declines over the years mainly due to land degradation. Hence, implementing appropriate measures to control land degradation is important. It is the responsibility of the farmers and the governments to take action to control land degradation. Agricultural extension officers are involved in making farmers aware of land degradation and control measures. Planners and policy makers need scientific assessments on land degradation and its implications so that they could advice the relevant authorities who prepare the national programs and budgets. This book highlights issues related to land degradation, the causal factors and methods of control. The audience is

agricultural practitioners and planners as well as students of agriculture. Environmentalists would also benefit by understanding the main issues related to land degradation discussed. Predicting Soil Erosion by Water - Kenneth G. Renard 1997

Introduction and history; Rainfall-runoff erosivity factor (R); Soil erodibility factor (K); Slope length and steepness factors (LS); Cover-management factor (C); Support practice factor (P); RUSLE user guide; Conversion to SI metric system; Calculation of EI from recording-rainage records; Estimating random roughness in the field; Parameter values for major agricultural crops and tillage operations. Soil Erosion in Europe - John Boardman 2007-01-11

Provides a unique and comprehensive assessment of soil erosion throughout Europe, an important aspect to control and manage if landscapes are to be sustained for the future. Written in two parts, Soil Erosion in Europe primarily focuses on current issues, area specific soil erosion rates, on and off-site impacts, government responses, soil conservation measures, and soil erosion risk maps. The first part overviews the erosion processes and the problems encountered within each European country, whilst the second section takes a cross-cutting theme approach. Based on an EU-funded project that has been running for four years with erosion scientists from 19 countries Reviews contemporary erosion processes and rates on arable and rangeland in Europe Looks at current issues, such as socio-economic drivers, controlling factors specific to the country and changes in land use

Enhancing Soil Health to Mitigate Soil Degradation - Douglas L. Karlen 2018-07-06 This book is a printed edition of the Special Issue "Enhancing Soil Health to Mitigate Soil Degradation" that was published in Sustainability

Marginality - Joachim von Braun 2013-08-19 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.

Encyclopedia of Soil Science - Rattan Lal 2017-01-11

New and Improved Global Edition: Three-Volume Set A ready reference addressing a multitude of soil and soil management concerns, the highly anticipated and widely expanded third edition of Encyclopedia of Soil Science now spans three volumes and covers ground on a global scale. A definitive guide designed for both coursework and self-study, this latest version describes every branch of soil science and delves into trans-disciplinary issues that focus on inter-connectivity or the nexus approach. For Soil Scientists, Crop Scientists, Plant Scientists and More A host of contributors from around the world weigh in on underlying themes relevant to natural and agricultural ecosystems. Factoring in a rapidly changing climate and a vastly growing population, they sound off on topics that include soil degradation, climate change, soil carbon sequestration, food and nutritional security, hidden hunger, water quality, non-point source pollution, micronutrients, and elemental transformations. New in the Third Edition: Contains over 600 entries Offers global geographical and thematic coverage Entries peer reviewed by subject experts Addresses current issues of global significance Encyclopedia of Soil Science, Third Edition: Three Volume Set expertly explains the science of soil and describes the material in terms that are easily accessible to researchers, students, academicians, policy makers, and laymen alike. Also Available Online This Taylor & Francis encyclopedia is also available through online subscription, offering a variety of extra benefits for researchers, students, and librarians, including: Citation tracking and alerts Active

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**The Future of Philippine Agriculture under a Changing Climate** - Mark W. Rosegrant  
2018-11-30

The Philippine economy has grown rapidly since 2010, but despite this growth, poverty and inequality remain high. Two-thirds of the poor live in rural areas, and the weak performance of the agriculture sector has contributed to the slow improvement in livelihoods. The challenge for agriculture will further increase, with climate change posing a growing threat to the sector. But agricultural transformation to spur sustained growth and reduce poverty is still possible under climate change with aggressive institutional reforms and implementation of the right mix of policies and programmes. The identification of the suitable policy and programme combination requires an accurate assessment of the key drivers of agricultural growth and food security; the impacts of climate change on agriculture and the overall economy; and the effectiveness of policies for adaptation and growth. This book addresses these big issues, focusing on enhancing the adaptation capacity of the Philippine agriculture sector. It is designed to provide a much-needed base of knowledge and menu of policy options to support decision- and policymaking on agriculture, climate change, and food security. The volume uses newly generated data, modelling outputs, and innovative analyses to provide a scientific basis for a variety of adaptation measures under different sets of climate change scenarios to guide decision-makers in strategic planning and policy formulation. "As we have actually experienced in Leyte, an island province in the Visayas where Super Typhoon Yolanda (Haiyan) struck, disasters caused by natural hazards could completely negate economic gains, devastate families and shatter dreams. Our greatest challenge is to make ourselves better prepared for and be more resilient to such

disasters. Natural hazards need not always lead to loss of so many lives and properties. This book shows us ways and provides tools to draw up climate change and socioeconomic scenarios at the regional and provincial levels, allowing us to identify strategies for mitigating climate change risks." — Ernesto M. Pernia, Secretary of Socioeconomic Planning, National Economic and Development Authority, Philippines "This book by top Philippine researchers combines state-of-the-art biophysical and economic modeling of climate impacts and adaptation policies with in-depth synthesis of agriculture, natural resources, climate trends, and policies. It provides a comprehensive assessment of climate change impacts on agriculture and the broader economy to provide important insights for Philippine policymakers." — Dr Cynthia Rosenzweig, Head, Climate Impacts Group, NASA Goddard Institute for Space Studies and Co-Founder of the Agricultural Model Inter-comparison and Improvement Project (AgMIP)  
**Soil and Water Quality** - National Research Council 1993-02-01

How can the United States meet demands for agricultural production while solving the broader range of environmental problems attributed to farming practices? National policymakers who try to answer this question confront difficult trade-offs. This book offers four specific strategies that can serve as the basis for a national policy to protect soil and water quality while maintaining U.S. agricultural productivity and competitiveness. Timely and comprehensive, the volume has important implications for the Clean Air Act and the 1995 farm bill. Advocating a systems approach, the committee recommends specific farm practices and new approaches to prevention of soil degradation and water pollution for environmental agencies. The volume details methods of evaluating soil management systems and offers a wealth of information on improved management of nitrogen, phosphorus, manure, pesticides, sediments, salt, and trace elements. Landscape analysis of nonpoint source pollution is also detailed. Drawing together research findings, survey results, and case examples, the volume will be of interest to federal, state, and local policymakers; state and local environmental and agricultural officials and other environmental



and agricultural specialists; scientists involved in soil and water issues; researchers; and agricultural producers.

Soils and Food Security - Ronald E. Hester 2012  
Soil is essential to agriculture and a resource that cannot be replaced easily. Nevertheless, its importance to food production and the threats to its sustainability are often overlooked. This book, the 35th volume of *Issues in Environmental Science and Technology*, examines the current status of soils across the globe and their potential for food production to meet the needs of the World's population in the 21st Century. Threats, such as the degradation, pollution and erosion of soil are discussed, along with the possible consequences of climate change for soil and food production. As an ecosystem service, soil also serves to capture nutrients and sequester carbon, and these issues are discussed in the context of adding value to soil protection. The influence of modern agricultural techniques in enhancing soil productivity is also discussed. Throughout the book case studies support the discussion. Together with the books on *Ecosystem Services*, *Sustainable Water*, and *Environmental Impacts of Modern Agriculture*, this addition to the series will be essential reading for anyone concerned with the environment, whether as scientist, policy maker, student or lay reader.

Soils, Land and Food - Alan Wild 2003-01-09  
A major challenge of the twenty-first century will be to ensure sufficient global food production to cope with the burgeoning world population. *Soils, Land and Food* is a short text aimed at undergraduates, graduates, agricultural scientists and policy makers which describes how the use of technology in soil management can increase and sustain agricultural production. The book leads the reader through the development of techniques of land management and discusses reasons why some agricultural projects have succeeded while others have failed. It shows how surveying and protecting soils before new land is brought into cultivation, raising soil fertility, increasing inputs and improving economic conditions can all help to increase food production. Particular emphasis is placed on the need for both economic change and technological intervention in developing countries where, in many cases, food production

will need to more than double in the next fifty years.

*Two Essays on Socio-economic Aspects of Soil Degradation* - Food and Agriculture Organization of the United Nations 2001

Contents: *Dirt poor: poverty, farmers and soil resource investment/* by Leslie Lipper; *Methodological issues in analysing the linkages between socio-economic and environmental systems/* by Dan Osgood and Leslie Lipper. Includes 1-page abstracts in French, Spanish and Arabic

Agriculture and the Environment - Noel D. Uri 1999

Agricultural chemical use and soil and water quality degradation associated with agricultural production are significant among the environmental problems confronting the United States. In fact, these are now perceived as environmental problems comparable to other environmental problems such as air quality deterioration and the release of toxic pollutants from industrial sources. While the growth of agricultural chemical use is an integral part of the technological revolution in agriculture that has generated major changes in production techniques, uncertainties about the health effects of agricultural chemicals are very important concerns. Severe soil degradation from erosion, compaction, or salinization can destroy the productive capacity of the soil. It can also impair water quality from sediment and agricultural chemicals. This book looks at both of these significant issues - the relationship between agricultural chemical use and the environment and the relationship between soil and water quality degradation associated with agricultural production in the environment.

*The impact of disasters and crises on agriculture and food security: 2021* - Food and Agriculture Organization of the United Nations 2021-03-17

On top of a decade of exacerbated disaster loss, exceptional global heat, retreating ice and rising sea levels, humanity and our food security face a range of new and unprecedented hazards, such as megafires, extreme weather events, desert locust swarms of magnitudes previously unseen, and the COVID-19 pandemic. Agriculture underpins the livelihoods of over 2.5 billion people - most of them in low-income developing countries - and remains a key driver of

development. At no other point in history has agriculture been faced with such an array of familiar and unfamiliar risks, interacting in a hyperconnected world and a precipitously changing landscape. And agriculture continues to absorb a disproportionate share of the damage and loss wrought by disasters. Their growing frequency and intensity, along with the systemic nature of risk, are upending people's lives, devastating livelihoods, and jeopardizing our entire food system. This report makes a powerful case for investing in resilience and disaster risk reduction - especially data gathering and analysis for evidence informed action - to ensure agriculture's crucial role in achieving the future we want.

### **North Sea Region Climate Change**

**Assessment** - Markus Quante 2016-08-31

This book offers an up-to-date review of our current understanding of climate change in the North Sea and adjacent areas, as well as its impact on ecosystems and socio-economic sectors. It provides a detailed assessment of climate change based on published scientific work compiled by independent international experts from climate-related disciplines such as oceanography, atmospheric sciences, marine and terrestrial ecology, using a regional evaluation and review process similar to that of the Intergovernmental Panel on Climate Change (IPCC). It provides a comprehensive overview of all aspects of our changing climate, discussing a wide range of topics including past, current and future climate change, and climate-related changes in marine, terrestrial and freshwater ecosystems. It also explores the impact of climate change on socio-economic sectors such as fisheries, agriculture, coastal zone management, coastal protection, urban climate, recreation/tourism, offshore activities/energy, and air pollution.

**Economics of Land Degradation and Improvement - A Global Assessment for Sustainable Development** - Ephraim Nkonya 2016-08-23

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 annual 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 and 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 into 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 interest in 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.

**Economic Theory and Exhaustible Resources** - P. S. Dasgupta 1979

A book on the economics of exhaustible resources requires no justification. A long book does. The purist will find disquieting our two-asset, constant population model with which we analyse growth possibilities in an economy with exhaustible resources.

*The Economics of Land Degradation* - Joachim von Braun 2013

Healthy soils are essential for sustaining economies and human livelihoods. In spite of this, the key ecosystem services provided by

soils have usually been taken for granted and their true value - beyond market value - is being underrated. This pattern of undervaluation of soils is about to change in view of rapidly raising land prices, which is the result of increased shortage of land and raising output prices that drive implicit prices of land (with access to water) upward. Moreover, the value of soil related ecosystems services is being better understood and increasingly valued. It is estimated that about a quarter of global land area is degraded, affecting about 1.5 billion people in all agro-ecologies around the world. Land degradation has its highest toll on the livelihoods and well-being of the poorest households in the rural areas of developing countries. Vicious circles of poverty and land degradation, as well as transmission effects from rural poverty and food insecurity to national economies, critically hamper their development process. Despite the need for preventing and reversing land degradation, the problem has yet to be appropriately addressed. Policy action for sustainable land use is lacking, and a policy framework for action is missing. Key objectives of this Issue Paper and of a proposed related global assessment of the Economics of Land Degradation (ELD) are: first, to raise awareness about the need for and role of an assessment of the economic, social and environmental costs of land degradation; and second, to propose and illustrate a scientific framework to conduct such an assessment, based on the costs of action versus inaction against land degradation. Preliminary findings suggest that the costs of inaction are much higher than the costs of action.

**The Environmental Impact of Economic Incentives for Agricultural Production** - Mohamed Ali Mekouar 1990

**Agriculture and Ecosystem Resilience in Sub Saharan Africa** - Yazidhi Bamutaze 2019-05-22

This volume discusses emerging contexts of agricultural and ecosystem resilience in Sub Saharan Africa, as well as contemporary technological advances that have influenced African livelihoods. In six sections, the book addresses the sustainable development goals to mitigate the negative impacts on agricultural

productivity brought about by climate change in Africa. Some of the challenges assessed include soil degradation, land use changes, natural resource mismanagement, declining crop productivity, and economic stagnation. This book will be of interest to researchers, NGOs, and development organizations. Section 1 focuses on climate risk management in tropical Africa. Section 2 addresses the water-ecosystem-agriculture nexus, and identifies the best strategies for sustainable water use. Section 3 introduces Information Communication Technology (ICT), and how it can be used for ecosystem and human resilience to improve quality of life in communities. Section 4 discusses the science and policies of transformative agriculture, including challenges facing crop production and management. Section 5 addresses landscape processes, human security, and governance of agro-ecosystems. Section 6 concludes the book with chapters uniquely covering the gender dynamics of agricultural, ecosystem, and livelihood resilience.

**Land Use Changes in Europe** - Floor Brouwer 1991

**The Economic Impact of Climate Change on Agriculture in Cameroon** -

[Economic Models of Tropical Deforestation: A Review](#) - David Kaimowitz 1998-01-01

Types of economic deforestation models. Household and firm-level models. Regional-level models. National and macro-level models. Priority areas for future research.

*The Economics of Soil Productivity in Sub-Saharan Africa* - Food and Agriculture Organization of the United Nations 2001

This study examines the current and potential role of economics in soil productivity in sub-Saharan Africa. After examining the status of soil productivity and the contribution of conventional economic analyses, it considers more innovative approaches that enable economics to play a greater role in the planning and evaluation of soil productivity, enhancing measures at farm, national and global level. In the past economics has tended to focus on one factor at a time but many factors affect soil productivity. Decisions, policies and their impact

call for a more integrative, participatory analytical approaches capable of weighing various aspects simultaneously. This study highlights how economics can respond to this challenge through the application of fresh concepts (e.g. natural capital) and specific techniques (e.g. multi-criteria analysis, green accounting).

**Economics of Land Degradation and Improvement - A Global Assessment for Sustainable Development** - Ephraim Nkonya 2015-11-11

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 annual 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 and 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 into 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 interest in 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.

**The State of the World's Land and Water Resources for Food and Agriculture** - Food and Agriculture Organization of the United Nations 2013-06-17

The State of the World's Land and Water Resources for Food and Agriculture is FAO's first flagship publication on the global status of land and water resources. It is an 'advocacy' report, to be published every three to five years, and targeted at senior level decision makers in agriculture as well as in other sectors. SOLAW is aimed at sensitizing its target audience on the status of land resources at global and regional levels and FAO's viewpoint on appropriate recommendations for policy formulation. SOLAW focuses on these key dimensions of analysis: (i) quantity, quality of land and water resources, (ii) the rate of use and sustainable management of these resources in the context of relevant socio-economic driving factors and concerns, including food security and poverty, and climate change. This is the first time that a global, baseline status report on land and water resources has been made. It is based on several global spatial databases (e.g. land suitability for agriculture, land use and management, land and water degradation and depletion) for which FAO is the world-recognized data source. Topical and emerging issues on land and water are dealt with in an integrated rather than sectoral manner. The implications of the status and trends are used to advocate remedial interventions which are tailored to major farming systems within different geographic regions.

**Sustainable Intensification to Advance Food Security and Enhance Climate Resilience in Africa** - Rattan Lal 2014-10-27

This 32-chapter volume represents the core of several oral and poster presentations made at the conference. In addition to Introduction and Conclusion sections, the book is thematically divided into 7 sections, namely, 1) Land Use and Farming Systems, 2) Effects of Climate Change on Crop Yield, 3) Soil Nutrient and Water Management for Carbon Sequestration, 4)



Rehabilitation of Degraded Lands through Forestry and Agroforestry, 5) Management of Animal Production for Greenhouse Gas Emissions, 6) Smallholder Adaptation to Climate Change, and 7) Economic, Social and Policy Issues. It addresses these themes in the context of sustainable intensification (SI). It implies increasing agronomic production from the existing land while improving/restoring its quality and decreasing the C or environmental footprint. Simply put, SI means producing more from less.

*Economic Analysis of Land Use in Global Climate Change Policy* - Thomas W. Hertel 2009-05-07

Land has long been overlooked in economics. That is now changing. A substantial part of the solution to the climate crisis may lie in growing crops for fuel and using trees for storing carbon. This book investigates the potential of these options to reduce greenhouse gas emissions, estimates the costs to the economy, and analyses the trade-offs with growing food. The first part presents new databases that are necessary to underpin policy-relevant research in the field of climate change while describing and critically assessing the underlying data, the methodologies used, and the first applications. Together, the new data and the extended models allow for a thorough and comprehensive analysis of a land use and climate policy. This book outlines key empirical and analytical issues associated with modelling land use and land use change in the context of global climate change policy. It places special emphasis on the economy-wide competition for land and other resources, especially; The implications of changes in land use for the cost of climate change mitigation, Land use change as a result of mitigation, and Feedback from changes in the global climate to land use. By offering synthesis and evaluation of a variety of different approaches to this challenging field of research, this book will serve as a key reference for future work in the economic analysis of land use and climate change policy.

*Economics of Soil Degradation* - Joshua Bishop 1995

**Indonesia in a Reforming World Economy** - Randy Stringer 2009  
Brings together a subset of papers that have

used 2 GCE models, the WAYANG Model and the GTAP Model, as part of ACIAR Project 9449 to analyse growth and policy reform issues in Indonesia.

**Economic Policy and Sustainable Land Use** - Nico Heerink 2012-12-06

Since the 1980s many developing countries have implemented macro-economic policy reforms to curb inflation, reduce fiscal deficits and control foreign debt. The policy instruments used, such as exchange rate adjustment, budget cuts, trade policy reforms, public expenditure reviews and privatisation, have different and sometimes opposite consequences for agricultural land use. During the same period awareness was growing that deteriorating soil quality could become a limiting factor to increase or even sustain agricultural production. As a result, food availability and even accessibility for large population groups in developing countries may be jeopardised in the near future. Recently, quantitative models have made useful contributions to understanding the impact of economic policy reforms on the sustainability of land use. They provide a consistent analytical framework to deal with complex issues such as the direct and indirect effects of economic, agricultural, environmental and population policies, the role of market imperfections in transmitting economic policy signals, and the interactions between soil quality, agricultural production and household economic decision making. Different types of models can be distinguished: bio economic models, focussing on the link between farm household decisions and the agricultural resource base, household and village models, examining the impact of the socio-economic environment on farm household decisions, and more aggregate models, analysing interactions between sectors and their implications for sustainable land use.

**The Impact of Land Degradation on Agricultural Productivity: a Multi-period Economic Land Use Model** - Marijke Kuiper 1997

**Advances in Understanding Soil Degradation** - Elmira Saljnikov 2022

This book informs about knowledge gain in soil and land degradation to reduce or prevent it for meeting the mission of the Sustainable

Developments Goals of the United Nations. Essence, extent, monitoring methods and implications for ecosystem functioning of main soil degradation types are characterized in overview chapters and case studies. Challenges, approaches and data towards identification of degradation in the frame of improving functionality, health and multiple ecosystem services of soil are demonstrated in the studies of international expert teams. The book consists

of five parts, containing 5-12 single chapters each and 36 in total. Parts are explaining (I) Concepts and Indicators, (II) Soil Erosion and Compaction, (III) Soil Contamination, (IV) Soil Carbon and Fertility Monitoring and (V) Soil Survey and Mapping of Degradation The primary audience of this book are scientists of different disciplines, decision-makers, farmers and further informed people dealing with sustainable management of soil and land.