

## Land Degradation In Ethiopia Causes Impacts And

Land degradation is increasingly considered as a global problem. The extent of degraded and degrading areas adversely impacts on large numbers of people and leads to significant social and economic costs, thus raising the questions: In which way is it worth taking action against land degradation? Where and when should action take place, and what are costs related to certain actions? For policy makers it is important to know the social and economic costs linked to the current and future status of land degradation. A conceptual framework that allows comparing the costs of action against land degradation versus the costs of inaction is provided in this book. The applicability of the framework is illustrated with case studies and prepares the ground for a global assessment on the costs of land degradation.

This book focuses on the effects of resettlement schemes on the environment. The chapters of the book include: Theories, typologies and processes of settlement, resettlement and resettlement schemes in Africa and other countries; Effects of the 1960s, 70s and 80s resettlement schemes on the overall bio-physical and human environments and brief presentation on the ongoing resettlement programme in Ethiopia; Effects of the resettlements on the soil resources, water, vegetation, land-use and farming systems, fires, health and wildlife in Gambela Region. Most of the resettlement projects were designed on the basis of political motives, short-sighted economic gains in mind, and were not integrated to other development programmes. As a result, they have aggravated land-use and ethnic conflicts, environmental degradation, food insecurity and poverty. It can be reversed through environmental knowledge, regional integration, effective land-use planning, and conservation-based sustainable utilisation of the natural resources.

This book constitutes the refereed post-conference proceedings of the 6th International Conference on Advancement of Science and Technology, ICAST 2018, which took place in Bahir Dar, Ethiopia, in October 2018. The 47 revised full papers were carefully reviewed and selected from 71 submissions. The papers present economic and technologic developments in modern societies in five tracks: agro-processing industries for sustainable development, water resources development for the shared vision in blue Nile basin, IT and computer technology innovation, recent advances in electrical and computer engineering, progresses in product design and system optimization.

This book provides a succinct but comprehensive presentation of key geomorphological locations and topics including information about geomorphological heritage and maps to visit the most important sites. Apart from often being remarkably scenic, landscapes reveal stories that often can be traced back in time tens of million years and include unique events. This is particularly true for Ethiopia where spectacular examples of different landforms are present. Its geomorphology varies from highlands, marked by high volcanoes and incised by deep river gorges, to the rift valley lakes endorheic systems and the below sea level lowlands with characteristic landscapes which are unique in the world. Landscapes and Landforms of Ethiopia highlights all these topics including essential information about geology and tectonic framework, past and present climate, hydrology, geographical regions and long-term geomorphological history. It is a highly informative book, providing insight for readers with an interest in geography and geomorphology.

Seminar paper from the year 2013 in the subject Agrarian Studies, grade: A, Wollega University (Haro Sabu Agricultural Research Center), language: English, abstract: Agricultural production in Ethiopia is characterized by subsistence orientation, low productivity, low level of technology and inputs, lack of infrastructures and market institutions, and extremely vulnerable to rainfall variability. Productivity performance in the agriculture sector is critical to improvement in overall economic well-being in Ethiopia. Low availability of improved or hybrid seed, lack

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of seed multiplication capacity, low profitability and efficiency of fertilizer, lack of irrigation development, lack of transport infrastructure, inaccessibility of market and prevalence of land degradation, unfertile soil, overgrazing, deforestation and desertification are among the constraints to agricultural productivity during last period. However, in 2011 the sector grew by 9% driven by cereal production which reached a record high of 19.10 million tons in Ethiopia.

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 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.

This book is an outcome of a research project on "Sustainable Forestry and the Environment in Developing Countries". The project has been run by Metsantutki muslaitos METLA -the Finnish Forest Research Institute since 1987 and will be completed this year.

A major output by this project has so far been a report in three volumes on "Deforestation or development in the Third World?" The purpose of our multidisciplinary research project is to generate new knowledge about the causes of deforestation, its scenarios and consequences. More knowledge is needed for more effective, efficient and equitable public policy, both at the national and international levels in supporting sustainable forestry in developing countries. Our project has specifically focused on 90 tropical countries as one group and on three subgroups by continents, as well as the three case study countries, the Philippines, Ethiopia and Chile. The University of Joensuu has been our active partner in the Philippine study. We have complemented the three cases by the analyses of Brazil and Indonesia, the two largest tropical forest-owning countries. Some other interesting country studies were annexed to complement our book both by geography and expertise. The United Nations University, World Institute for Development Economics Research, UNU-IIDER in Helsinki Finland has also been partly engaged. Most of the results from its project on "The Forest in the South and North in Context of Global Warming" will, however, be published later in a separate book. Deforestation, overgrazing, and unsustainable methods of cultivation are threatening agriculture and food security in the highlands of East Africa. In response, economists and other development professionals have turned their attention to combating the problem. The book presents the processes governing the dynamics of landscapes, soils and sediments, water and energy under different climatic regions using studies conducted in varied climatic zones including arid, semi-arid, humid and wet regions. The spatiotemporal availability of the processes and fluxes and their linkage to the environment, land, soil and water management are presented at various scales. Spatial scales including laboratory, field, watershed, river basin and regions are represented. The effect of tillage operations and land management on soil physical characteristics and soil moisture is discussed. The book has 35 chapters in seven sections: 1) Landscape and Land Cover Dynamics, 2) Rainfall-Runoff Processes, 3) Floods and Hydrological Processes 4) Groundwater Flow and Aquifer Management, 5) Sediment Dynamics and Soil Management, 6) Climate change impact on vegetation, sediment and water dynamics, and 7) Water and Watershed Management.

Policymakers and technology development institutions have mostly focused on high-potential farming areas, which have better resource endowments and greater access to markets and infrastructure than less-favored areas. However, in developing nations more than one billion people live in less-favored areas, where, despite disadvantages, appropriate policies and programs can generate high returns and contribute significantly to poverty reduction. IFPRI and its partners' research in the highlands of Ethiopia shows how poverty and land degradation can be reduced in a less-favored area. Using a bioeconomic model to analyze the effects that land degradation, population growth, stagnant technology, market imperfections, and increased risk of drought have on household production, welfare, and food security, the report gauges how alternative policy choices affect poverty and land degradation. According to the study, land quality and household welfare are both in peril in the Ethiopian highlands. The population in the region could suffer devastating effects if proper policies are not put in place. The bioeconomic modeling approach used in this study can be usefully adapted and applied in many other settings and at larger spatial and socioeconomic scales.

Having been under colonial rule for the first half of the century, by 1965 all but a handful of African countries had regained their

independence and were poised to take off into an era of development. However, Africa now suffers from the most acute form of underdevelopment anywhere in the world. Bringing together a broad selection of case studies covering a wide range of key issues, this volume provides a multidisciplinary exploration of Africa's development opportunities and challenges into the twenty-first century.

The highlands are the most affected.

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.

Descreve os sistemas agroflorestais incluindo a parte economica, sociocultural e o futuro da pesquisa.

The Universal Soil Loss Equation (USLE) enables planners to predict the average rate of soil erosion for each feasible alternative combination of crop system and management practices in association with a specified soil type, rainfall pattern, and topography. When these predicted losses are compared with given soil loss tolerances, they provide specific guidelines for effecting erosion control within specified limits. The equation groups the numerous interrelated physical and management parameters that influence erosion rate under six major factors whose site-specific values can be expressed numerically. A half century of erosion research in many States has supplied information from which at least approximate values of the USLE factors can be obtained for specified farm fields or other small erosion prone areas throughout the United States. Tables and charts presented in this handbook make this information readily available for field use. Significant limitations in the available data are identified.

This book is an initial attempt to estimate the loads of heavy metal and nutrient loads into an industrial effluent receiving rivers of a typical industrializing catchment. It shows the effects and impacts of diffuse and point sources of these loads into the rivers, and illuminate management, capacity and policy gaps of riverine water and sediment monitoring in the sub-Saharan countries perspective from Ethiopia. The study was done in semi-arid catchments of Kombolcha city with industrialising urban and peri-urban areas in north-central Ethiopia. The Leyole and Worka rivers, which receives industrial effluent and wash-off from the catchments' areas, were monitored for two years. This book contribute to our understanding on applicable methods to quantify loads of diffuse and point sources in data poor areas, and the most important contribution is to address the gaps in in controlling emission changes and. The results of this book contribute to the theory of river protection and understanding of water quality management of sub-Saharan African tropical rivers and sediments and provides policy options for improvement in rivers water quality of the sub-Saharan countries. In bridging this gap, this book proposed a model to estimate the total loads of nitrogen and phosphorus from a catchment. 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.

Doctoral Thesis / Dissertation from the year 2020 in the subject Environmental Sciences, grade: A, Addis Ababa University, course: Environmental Science, language: English, abstract: This research is aimed at exploring the changes in indicators of ecosystem services associated with integrated land management practices and generating information and data from agricultural landscapes. The specific objectives are to evaluate changes in selected soil physicochemical properties of the treated site taking the neighboring control site as a base, to quantify the change in water discharge due to integrated land management practices, to assess plant species richness in the watershed and compute changes due to integrated land management practices, to determine the plant biomass production and carbon stock of the watershed associated with integrated land management practices. This thesis is organized in five chapters. The first chapter provides general background information followed by the research problem, justification of the study, research objectives, hypotheses and research questions. The second chapter is a review of relevant literatures that gives existing evidences on the severity of land degradation, rehabilitation efforts and outcomes of rehabilitation works in Ethiopia, and the third chapter is the materials and methods section that begins

with a description of the study area and explanations the research methods. Chapter four presents results and discussion of each research objective which are published in or submitted to peer-reviewed scientific journals and manuscripts under preparation. Chapter five provides the conclusions and recommendations of the research.

The Horn of Africa is a deeply troubled region engulfed in three interlocking crises. The first is a security crisis characterized by a range of devastating inter-state and inter-communal conflicts, including civil wars. The second is an economic crisis, evidenced by widespread debilitating poverty, chronic food insecurity, and frequent cycles of famines. The effects of the third - environmental - crisis are all too visible in the droughts, deforestation and desertification ravaging the region. What is more, these three crises are mutually reinforcing locking the region into a cycle of disaster. Conflicts contribute to poverty, which in turn intensifies environmental degradation, leading to scarcities which fuel further conflicts. In this clear and authoritative guide, Kidane Mengisteb explores the key drivers of instability in the Horn of Africa, suggesting structural and institutional changes that - if implemented - could help lift the region out of crisis. The Horn's complex crises must be tackled in a comprehensive manner. But, he contends, this can only be achieved if the causes of conflict are addressed head-on. Without peace, the region cannot resolve its economic problems, and nor can it develop the capabilities required to cope with environmental change. The Horn of Africa will be essential reading for students and scholars in conflict and security studies, as well as anyone with an interest in learning more about the dynamics of this troubled region

This publication is intended to serve researchers and teachers as well as development practitioners. It was prepared based on requests from CIFOR's national partners in Ethiopia and the region to compile existing information and help address the lack of documents available for teaching graduate and undergraduate students about the management of forests in dryland areas in general, and the production and marketing of gums and resins in particular.

Thesis (M.A.) from the year 2018 in the subject Politics - Environmental Policy, University of Gondar, course: law, language: English, abstract: Using qualitative method this study tries to find out whether the ANRS rural land laws' normative and institutional frameworks and their enforcement mechanisms are adequate or not in protecting environmental degradation in rural areas of South Wollo Zone, Ethiopia. Legal provisions of the ANRS rural land laws which deal with unlimited land use right, limited land distribution, land right registration and certification, obligations to conserve and protect the land, expropriation for environmental purpose, incentive and the existence of legal remedy will encourage the zone's rural environmental protection. However this does not mean that such laws are comprehensive rather such laws fails to comprise all possible obligations of land users, lacks clarity and provided in general terms with weak remedies. There is also no cooperation mechanism or forum among stockholders in the areas of rural land administration and environmental protection. Much attention is given to land administration issues than environmental protection. Environmental degradation related to rural land in Ethiopia in general and in ANRS, in particular, is reflected in the form of land degradation, loss, and degradation of water resources, deforestation as well as decline and/or loss of biodiversity. Ethiopia has designed a number of environmental laws. But such laws suffer from various defects which affect their ability to promote environmental protection. So efforts to use laws to protect the rural environment should look beyond just environmental statutes. Therefore seeking a solutions and studying rural land administration laws will be helpful to defy land degradation in rural areas. The rural land and environmental protection institution also lack financial, material and manpower capacities which hold back to carry out its duties. Due to these reasons, the rural land administration and environmental protection institutional setup of the Zone remains inadequate to properly protect the rural environment. In relation to rural land environmental protection, the ANRS rural land laws are

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practically not enforced in the zone due to the legal gap and unclear less, insufficient and political will to enforce the rural land laws. So the rural land environment of the South Wollo Zone remains in peril so long as there is no effective and enforced rural land law, government commitment, and well-designed, empowered and coordinated institutions.

Poor land management has degraded vast amounts of land, reduced our ability to produce enough food, and is a major threat to rural livelihoods in many developing countries. This book provides a thorough analysis of the multifaceted impacts of land use on soils. Abundantly illustrated with full-color images, it brings together renowned academics and policy experts to analyze the patterns, driving factors and proximate causes, and the socioeconomic impacts of soil degradation.

This paper reviews past studies on the costs of land degradation in Ethiopia, with a view to drawing implications for policies, programs, and future research on sustainable land management (SLM). Given the wide range of methods and assumptions used in the studies, their findings concerning annual costs of land degradation relative to agricultural gross domestic product (AGDP) are of remarkably similar magnitude. The minimum estimated annual costs of land degradation in Ethiopia range from 2 to 3 percent of AGDP. This estimate does not take into account downstream effects such as flooding, suggesting that actual total costs are possibly much higher than the 2-3 percent range. A onetime occurrence of a 2-3 percent reduction in AGDP might be manageable, but the cumulative losses to land degradation over time are very serious for an agriculturally based economy. Such cumulative losses represent a significant drag on rural growth and poverty reduction and jeopardize long-term, sustainable development.

This book is a contribution by the presenters of the 2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam (GERD). The Nile basin is facing unprecedented level of water right challenges after the construction of GERD has begun. Ethiopia, Egypt and Sudan have struggled to narrow their differences on filling and operation of the GERD. The need for science and data-based discussion for a lasting solution is crucial. Historical perspectives, water rights, agreements, failed negotiations, and other topics related to the Nile is covered in this book. The book covers Nile water claims past and present, international transboundary basin cooperation and water sharing, Nile water supply and demand management, Blue Nile/Abbay and Grand Ethiopian Renaissance Dam, land and water degradation and watershed management, emerging threats of the Lakes Region in the Nile Basin, and hydrologic variation and monitoring. This book is beneficial for students, researchers, sociologists, engineers, policy makers, lawyers, water resources and environmental managers and for the people and governments of the Nile Basin.

This book is about the Grand Ethiopian Renaissance Dam newly being built on the Blue Nile, a transboundary river. Due to rising population and increasing water demand in the Nile basin, major projects raise interest and concern by millions with potential for water conflict. The dam design, reservoir filling policy, operation of the dam, riparian countries response, dam site importance and social impact and economy of the dam are presented in the book.

The perseveration of our natural environment has become a critical objective of environmental scientists, business owners, and citizens alike. Because we depend on natural resources to survive, uncovering methods for preserving and

maintaining these resources has become a focal point to ensure a high quality of life for future generations. *Natural Resources Management: Concepts, Methodologies, Tools, and Applications* emphasizes the importance of land, soil, water, foliage, and wildlife conservation efforts and management. Focusing on sustainability solutions and methods for preserving the natural environment, this critical multi-volume research work is a comprehensive resource for environmental conservationists, policymakers, researchers, and graduate-level students interested in identifying key research in the field of natural resource preservation and management.

This book is based on a workshop held in Zimbabwe, May 1999, organized by the Department of Research and Specialist Services (Zimbabwe) and the International Board for Soil Research and Management (IBSRAM). Reviewing the current state of knowledge on and the practical aspects of the management of Vertisols in Africa, this book also includes comparative chapters covering other parts of the world, such as India, Australia and Texas (USA).

From a war-torn and famine-plagued country at the beginning of the 1990s, Ethiopia is today emerging as one of the fastest-growing economies in Africa. Growth in Ethiopia has surpassed that of every other sub-Saharan country over the past decade and is forecast by the International Monetary Fund to exceed 8 percent over the next two years. The government has set its eyes on transforming the country into a middle-income country by 2025, and into a leading manufacturing hub in Africa. The *Oxford Handbook of the Ethiopian Economy* studies this country's unique model of development, where the state plays a central role, and where a successful industrialization drive has challenged the long-held erroneous assumption that industrial policy will never work in poor African countries. While much of the volume is focused on post-1991 economic development policy and strategy, the analysis is set against the background of the long history of Ethiopia, and more specifically on the Imperial period that ended in 1974, the socialist development experiment of the Derg regime between 1974 and 1991, and the policies and strategies of the current EPRDF government that assumed power in 1991. Including a range of contributions from both academic and professional standpoints, this volume is a key reference work on the economy of Ethiopia.

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