

Land Degradation In Ethiopia Causes Impacts And

This study aims to inform the implementation in Ethiopia of the AgrInvest-Food Systems Project, a collaboration between the Food and Agricultural Organization of the United Nations (FAO) and the European Centre for Development Policy Management (ECDPM) to promote private investment in African food systems that contributes to sustainable development objectives. The study analyses the Ethiopian food system, identifying and explaining notable trends, important socio-economic, food security and nutrition and environmental outcomes generated by the food system, as well as the structural factors, institutions, and actors that shape food system outcomes in Ethiopia.

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.

Bachelor Thesis from the year 2019 in the subject Geography / Earth Science - Physical Geography, Geomorphology, Environmental Studies, grade: A, Ethiopian Civil Service University (College of Urban Development and Engineering), course: Research, language: English, abstract: The general objective of this senior essay is to assess the impact that urbanization has brought to the environment in Yeka sub city. The research is descriptive in its very nature. Besides, both quantitative and qualitative research approach is used. Simple random sampling technique particularly lottery method is used to select samples from the total population. Both primary and secondary data sources have been employed, and questionnaire, interview and observation are employed to collect the required data. Furthermore, quantitative (i.e. descriptive statistics specially frequency distribution and percentage) and qualitative (i.e., verbal analysis or narration) data analysis methods have been launched to analyze the collected data. Data are mainly presented in tabular, pictorial and textual form. Continuous population growth in Yeka sub city resulted in the encroachment of forest land mostly through informal way and this resulted in the minimization of forest cover and the alteration of land use from natural forest into human-made residential and other built-up areas on a continuous manner. Besides the formal settlement, made by the legal allotment of land, the informal settlement is very high and even difficult to control. This indicates the high magnitude of urbanization in the sub city. The main causes for the continuous urban population growth or urbanization are influx of people into the city of Addis Ababa, ever-increasing natural birth rate and reduced mortality rate. The impact that urbanization has on the environment encompass deforestation, land slide and soil degradation, excessive waste generation and water and land pollution, and air pollution. Protecting agricultural and fores

In Ethiopia, the majority of the rural population livelihood depends on agriculture. However, land degradation caused by soil erosion, overgrazing, deforestation and poor agricultural practices are undermining the very resources. Now more than ever, knowledge of the trends of landuse/landcover change and dynamics and the process of soil erosion, their causes, and their impact on such fragile environment must be a priority issue in order to devise effective control mechanisms and suitable land management practices. Hence, this study attempted to identify and quantify the major landuse/landcover changes over the past 32 years (1973-2005) as well as to estimate the rate of soil erosion using the Revised Universal Soil Loss Equation (RUSLE) in combination with Remote Sensing and GIS.

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.

Resource degradation is a critical problem in highland Ethiopia Past soil and water conservation efforts did not bring about significant results This thesis discusses the need for and possibilities of implementing integrated watershed management (IWM) approach

Agricultural productivity in the highlands of Ethiopia is threatened by severe land degradation, resulting in significant reductions in agricultural GDP. In order to mitigate ongoing erosion and soil nutrient loss in the productive agricultural highlands of the country, the government of Ethiopia initiated a Sustainable Land Management Program (SLMP) targeting 209 woredas (districts) in six regions of the country. This study evaluates the impact of SLMP on the value of agricultural production in select woredas by using a panel survey from 2010 to 2014. Whereas previous studies have used cross-sectional data and short timeframe field trials to measure sustainable land management (SLM) effects on agricultural productivity, this analysis exploits data collected over four years to assess impact. The results of this analysis show that participation by farmers in SLMP, regardless of the number of years of participation in the program, is not associated with significant increases in value of production. This may be due to several reasons. First, similar to previous studies, it is possible that longer term maintenance is necessary in order to experience significant benefits. For example, Schmidt and Tadesse (2014) report that farmers must maintain SLM for a minimum of seven years to reap benefits in value of production.

Second, this analysis finds that value of production, as well as SLM investments, increased significantly in both treatment and non-treatment areas over the study period. Previous research has found that non-treatment neighbors learn from nearby program areas, and adopt technologies similar to programmed areas, which would dilute the impact measurement of program effects (Bernard et al. 2007; Angelucci and DiMaro 2010). Finally, it is important to note that kebeles that were not selected in the SLMP, but are downstream relative to a targeted kebele may receive indirect benefits through reduced flooding, increased water tables, etc. Thus, the impact of the SLMP may be underestimated in this analysis if non-program kebeles are benefiting indirectly from the program.

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. 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.

Essay from the year 2020 in the subject Forestry / Forestry Economics, Wollega University (Wollega University Gimbi Campus, Forestry Department), language: English, abstract: Land degradation can be considered in terms of the loss of actual or potential productivity or utility as a result of natural or human factors; it is the decline in land quality or reduction in its productivity. It causes running down of soil organic matter and available water for crop growth. Consequently, implementation of soil and water conservation especially level soil bund is supposed to alleviate the impacts of soil erosion and increase agricultural land production and crop productivity. Based on that the effects of level soil bund was evaluated by conducting on-farm study during the cropping season of 2019 in Eba wakeyo kebele, Nejo District, Western Wollega of Oromia Regional State with the objective of evaluating level soil bund on teff productivity and soil properties. The study involves two factor: level soil bund (with and without) was a main plot and the ages of level soil bund was taken as the sub-plots. The treatment (T1=with bund of six year splited in to 7, T= with bund of 4 year splited in to 7, T3= with bund of 2 year splited in to 7and T4= without splited in to 7) with randomized complete block design. The data was analyzed using general linear model procedures and to separate difference between mean LSD (5%) was used. The level soil bund increased the mean value of soil moisture contents at 0-30 cm and 0-60 cm soil depth, the teff (*Eragrostis tef*) grain yield increased by 22.85% when compared with controlled block and the teff biomass increased by 24.32%. As the wall, it is concluded that level soil bund improves soil fertility, soil moisture status and teff (*Eragrostis tef*) grain yield and yield components.

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 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. 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.

The papers presented at the workshop dealt with a wide array of topics related to land management in the highlands of Tigray.

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.

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.

Land Degradation and Strategies for Sustainable Development in the Ethiopian Highlands Amhara Region ILRI (aka ILCA and ILRAD) Reservoir Siltation in Ethiopia Causes, Source Areas, and Management Options Cuvillier Verlag Land Degradation The Main Environmental Problem in Ethiopia : Its Scale, Impacts, Causes, and Cures Nature and Causes of Land Degradation in the Oromiya Region A Review ILRI (aka ILCA and ILRAD) Environment and Environmental Change in Ethiopia Land Degradation and Strategies for Sustainable Land Management in the Ethiopian Highlands Tigray Region ILRI (aka ILCA and ILRAD) Africa's Development in the Twenty-first Century Pertinent Socio-economic and Development Issues Ashgate Publishing, Ltd.

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.

This proceeding provides the papers and discussion results of a two-day workshop that was organized at International Water Management Institute (IWMI) office in Addis Ababa during the period of February 6-8, 2009 in relation to CPWF Project 19 – Improved water and land management in the Ethiopian Highlands and its impact on downstream stakeholders dependent on the Blue Nile. Short title: Upstream Downstream (USDS) in the Nile. The project is being under implementation during the last one and half years in partnership with various institutions that include International Livestock Research Institute, Cornell University, Omdurman Islamic University-UNESCO Chair in Water Resources, Addis Ababa University, Bahir Dar University, Amhara Regional Agricultural Research Institute and Forum for Social Studies. The main aims of the workshop had been: Bring together key stakeholders relevant to the project; Present, debate and validate the intermediate results of the project; Disseminate key results to wider audiences through workshop participating stakeholders; Follow up on the progress of the project and plan remaining tasks of the project. The workshop focus themes were: General characterization of the Blue Nile Basin; Watershed modeling and analysis; Water demand and allocation modeling and simulation; Policy and institutions of the water management in the Blue Nile basin.

Soil degradation is a widespread problem in Africa resulting in low 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. 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. 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.

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 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.

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.

Academic Paper from the year 2019 in the subject Geography / Earth Science - Geology, Mineralogy, Soil Science, grade: A, Wollega University, course: Soil physical properties, language: English, abstract: Land degradation is a pervasive problem that negatively influences agricultural productivity in Ethiopia as it cause depletion of soil organic matter. Therefore, implementation of soil and water conservation is believed to mitigate the impacts of soil erosion. An on-farm study was conducted in Arjo Gudetu kebele, Eastern Wollega of Oromia with the objective of evaluating soil and water conservation practices on soil physio chemical properties and productivity of crop lands. The study involves one factor: level soil bund (with and without) was a main plot. The treatment (Treatment1=with bund splited in to 12 and Treatment2 = without splited in to 10) with randomized complete block design. Soil sample were collected at 0-50cm and 30-60cm soil depth and analyzed for selected physical and chemical properties. Yield and yield components of the crops were determined using a quadrant sampling technique 1*1m. The data was analyzed using general linear model procedures and to separate difference between mean LSD (5%) was used. On maize (*Zea Mays L.*) field, level soil bund increased the mean value of soil moisture contents at 0-30 cm and 30-60 cm soil depth, the grain yield increased by 26% and biomass increased by 22%. On sorghum (*Sorghum bicolor L.*) field the mean value of soil moisture content, days to flowering, maturity dates significantly affected and biomass was increased by 8.25%.

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 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.

This report on Ethiopia's Assessment of Development Results (ADR) focuses on the following three thematic areas: fostering democratic governance; achieving the Millennium Development Goals (MDGs) and reducing poverty under a human development perspective; and ensuring environmental sustainability. Reflecting on the characteristics of Ethiopia's economic history, its current juncture and prospects, the ADR examined the past with a forward-looking perspective.

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.

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.

This book examines prevailing human health problems in political, socioeconomic, cultural, and physical/biotic settings of health practitioners and planners in Ethiopia. It also evaluates modern and traditional health resources and examines the occurrence of nonvectored communicable diseases.

Forest conversion - soil degradation - farmers' perception nexus: Implications for sustainable land use in the southwest of Ethiopia. Resettlements in the forest regions instigate considerable impacts on the natural resource base. This study presents a comparative assessment of the biophysical processes of resource degradation and the farmers' awareness in a cereal-based farming system of the settlers and an indigenous coffee-based farming system. The study analyzes the extent of forest conversion and soil degradation in the two farming systems. Furthermore, the farmers' response and coping mechanisms are assessed. The need for providing land management technologies to farmers to use their resources sustainably is emphasized and a review of the resettlement policy is underlined.

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.

"The objectives of this workshop are to review and discuss the main findings and policy implications of recent research conducted on these topics by IFPRI, Wageningen University and Research Center (WUR), the International Livestock Research Institute (ILRI), Mekelle University (MU), the Ethiopian Agricultural Research Organization (EARO) and other Ethiopian

collaborators; to discuss options for improving the development of agricultural markets and land management in Ethiopia, considering different stakeholders' perspectives; and to develop recommendations for priority policy actions and further research based upon lessons learned from the research and remaining knowledge gaps. IFPRI has worked for more than a decade in Ethiopia studying the root causes of the interrelated problems of famine, rural poverty, low agricultural productivity and natural resource degradation, and helping to identify strategies and policies to overcome these problems. The need for effective and efficient markets for agricultural commodities and productive inputs, as well as effective measures to combat land degradation are clearly recognized by the government of Ethiopia in its current rural development strategy and poverty reduction strategy. Ethiopia has made great strides in recent years in increasing farmers' access to productive technologies. Yet as we are all increasingly aware, these advances are necessary but not sufficient to achieve the goal of agriculturally led industrialization. Market development and sustainable natural resource management are essential building blocks of a successful rural development strategy, requiring policy makers and other stakeholders to identify and invest in an appropriate mix of institutions, infrastructure, information, and innovation systems. This workshop is intended to help contribute to these important efforts by taking stock of what is known and what we have learned from several years of recent research on sustainable land management and agricultural market development. " --Authors' Abstract.

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