Precision Agriculture Technology Application Landuse Suitability Evaluation Using Gis

Agricultural Technologies and Tropical DeforestationAlternative Farming Systems, Economic AspectsPrecision agricultureExamining International Land Use Policies, Changes, and ConflictsWhy Invest in ICTs for agriculture?Understanding Land-Use and Land-cover Change in Global and Regional ContextQuick Bibliography SeriesModernizing AgricultureAbstracts of Funded ResearchContributions of Land Remote Sensing for Decisions About Food Security and Human HealthRemote Sensing and Its ApplicationsComputational Intelligence for Knowledge-Based System DesignAdvanced Applications in Remote Sensing of Agricultural Crops and Natural VegetationAgriculture in the Sacramento RegionSpatial Information for Land Use ManagementGIS Applications in Agriculture, Volume FourOECD Economic SurveysLand Use in Advancing AgricultureGeospatial TechnologyGIS IndiaDigital technologies in agriculture and rural areasGIS Applications in AgricultureCIGR Handbook of Agricultural Engineering: Information technologyIntelligent Control for Agricultural Applications 2001Agriculture & Food Systems to 2050Sustainable Agriculture and the Environment in the Humid TropicsPrecision Agriculture BasicsPrecision in Crop FarmingPerspectives for Agroecosystem Management:National Research Initiative Competitive Grants ProgramUnmanned Aerial Vehicle: Applications in Agriculture and EnvironmentLockhart and Wiseman's Crop Husbandry Including GrasslandAgriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations for 2004Precision Agriculture in the 21st CenturyComputer and Computing Technologies in Agriculture II, Volume 1Precision Agriculture: Technology and Economic PerspectivesPrecision Agriculture for Sustainability and Environmental ProtectionThe SAGE Handbook of Remote SensingThe International Yearbook of Environmental and Resource EconomicsApplications of Remote Sensing in Agriculture

Agricultural Technologies and Tropical Deforestation

This book presents cases from different countries with a main focus on the perspectives of using precision farming in Europe. Divided into 12 chapters it addresses some of the most recent developments and aspects of precision farming. The intention of this book is to provide an overview of some of the most promising technologies with precision agriculture from an economic point of view. Each chapter has been put together so that it can be read individually should the reader wish to focus on one particular topic. Precision Farming as a farm technology benefits from large-scale advantages due to relatively high investment costs and is primarily adopted on farms with medium to large field areas.

Alternative Farming Systems, Economic Aspects

Precision agriculture

The book constitutes the refereed proceedings of the 13th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2010, held in Dortmund, Germany from June 28 - July 2, 2010. The 77 revised full papers were carefully reviewed and selected from 320 submissions and reflect the richness of research in the field of Computational Intelligence and represent developments on topics as: machine learning, data mining, pattern recognition, uncertainty handling, aggregation and fusion of information as well as logic and knowledge processing.

Examining International Land Use Policies, Changes, and Conflicts

- Basic Statistics of the European Union, 2017 (Numbers in parentheses refer to the OECD average)a - Executive summary - Key Policy Insights - Progress in main structural reforms - Building a stronger and more integrated Europe

Why Invest in ICTs for agriculture?

'A magnificent achievement. A who's who of contemporary remote sensing have produced an engaging, wide-ranging and scholarly review of the field in just one volume' - Professor Paul Curran, Vice-Chancellor, Bournemouth University Remote Sensing acquires and interprets small or large-scale data about the Earth from a distance. Using a wide range of spatial, spectral, temporal, and radiometric scales Remote Sensing is a large and diverse field for which this Handbook will be the key research reference. Organized in four key sections: • Interactions of Electromagnetic Radiation with the Terrestrial Environment: chapters on Visible, Near-IR and Shortwave IR; Middle IR (3-5 micrometers); Thermal IR ; Microwave • Digital sensors and Image Characteristics: chapters on Sensor Technology; Coarse Spatial Resolution Optical Sensors ; Medium Spatial Resolution Optical Sensors; Fine Spatial Resolution Optical Sensors; Video Imaging and Multispectral Digital Photography; Hyperspectral Sensors; Radar and Passive Microwave Sensors; Lidar • Remote Sensing Analysis - Design and Implementation: chapters on Image Pre-Processing; Ground Data Collection; Integration with GIS; Quantitative Models in Remote Sensing; Validation and accuracy assessment; • Remote Sensing Analysis - Applications: LITHOSPHERIC SCIENCES: chapters on Topography; Geology; Soils; PLANT SCIENCES: Vegetation; Agriculture; HYDROSPHERIC and CRYSOPHERIC SCIENCES: Hydrosphere: Fresh and Ocean Water; Cryosphere; GLOBAL CHANGE AND HUMAN ENVIRONMENTS: Earth Systems; Human Environments & Links to the Social Sciences; Real Time Monitoring Systems and Disaster Management; Land Cover Change Illustrated throughout, an essential resource for the analysis of remotely sensed data, the SAGE Handbook of Remote Sensing provides researchers with a definitive statement of the core concepts and methodologies in the discipline.

Understanding Land-Use and Land-cover Change in Global and Regional Context

Conservation planning involves targeted management practices and land use decision-making based on careful analysis of landscape limitations in order to protect soil and water resources. Developing solutions to conservation planning is of worldwide interest due to anticipated population growth, growing demand of feedstocks for biofuels, decreasing freshwater resources, and increasing land degradation in the developed world. Recent advances in geospatial technologies now provide land managers with tools and resources to conserve soil and water resources more efficiently than has ever been possible before. GIS Applications in Agriculture, Volume 4: Conservation Planning presents approaches developed by leading researchers working at the intersection of conservation and spatial technologies. Among others, the technologies include global positioning systems (GPS), geographic information systems (GIS), Internet mapping technologies, remote sensing, and various modeling applications. These advances allow improved prediction of soil erosion and environmental effects, better prioritization of land for conservation initiatives and funding, and enhanced prediction of the impact of management practices on natural resources. They also facilitate the development of conservation management plans and improve the accessibility of conservation knowledge and tools. The strategies presented are designed to provide the greatest benefit to preserving natural resources while reducing economic expenses. Each chapter includes a detailed background on the specific topic, with case studies describing the design and implementation of the solution. Readers are guided through step-by-step exercises to gain experience in executing the conservation practice. Substantial online data and modeling

are available that can be immediately implemented or modified to suit users' needs. The exercises are accessible enough to be used in the classroom, yet detailed enough for self-instruction by highly motivated professionals active in developing conservation plans.

Quick Bibliography Series

Precision Agriculture presents the latest scientific results from worldwide research, field studies and practical application. The book contains peer-reviewed papers that were presented at the 4th European Conference on Precision Agriculture. The papers focus on precision agriculture research containing interdisciplinary site analysis, integrative measures and management strategies as well as on practical applications. The economic and environmental effects of implementing the precision agriculture concept are featured in many of them. The unique feature of the fourth conference was that it was held in parallel with the 1st European Conference on Precision Livestock Farming - the links between both technologies were drawn and the possible interactions between them were shown for the first time. The potential is to integrate both technologies to encompass the whole farm. Peer-reviewed papers from the Precision Livestock conference are presented in a companion proceedings, Precision Livestock Farming.

Modernizing Agriculture

Abstracts of Funded Research

The pervasive relevance of geospatial information and the development of emerging geospatial technologies offer new opportunity for bridging the gap between remote sensing scientific know-how and end users of products and services. Geospatial technology comprises tools and techniques dealing with the use of spatially referenced information, for the description and modeling of spatial and dynamic phenomena related to the Earth's environment. This book addresses environmental and social applications of geospatial technologies, thus also providing a multidisciplinary perspective on emerging geospatial techniques and tools. It consists of ten chapters offering insight into geospatial technology progress and trends. Authors present several application-oriented studies from various parts of the world, including applications in collaborative geomatics, geospatial statistics, GIS, agriculture, and natural hazard monitoring.

Contributions of Land Remote Sensing for Decisions About Food Security and Human Health

Remote Sensing and Its Applications

First published in 1966, Lockhart and Wiseman's Crop Husbandry Including Grassland has established itself as the standard crop husbandry text for students and practitioners alike. Radically revised and expanded, and with a new team of authors, the eighth edition confirms and extends its reputation. Part one looks at the basic conditions for crop growth with chapters on plant structure and growth, soil analysis and management, and the use of fertilisers and manures. There is also a new chapter on the influence of climate and weather. Part two surveys general aspects of crop husbandry. As well as a discussion of cropping techniques, there are new chapters on the important new areas of integrated crop management and organic crop husbandry, as well as discussion of seed selection and production. Part three then looks at how these general techniques are applied to particular crops, with chapters on cereals, root crops, fresh harvested crops, forage crops and combinable break crops. Part four considers the use

of grassland with chapters on classification, sowing and management, grazing and conservation for winter feed. Lockhart and Wiseman's Crop Husbandry Including Grassland remains the standard text for general agriculture, land management and agri-business courses, and is a valuable practical reference for the farming industry. The eighth edition has been widely expanded and remains the standard text for general agriculture, land management and agri-business courses Includes new chapters on cropping techniques, integrated crop management and quality assurance, seed production and selection and the influence of climate Discusses basic conditions for crop growth, how techniques are applied to particular crops, the influence of weather and the use of grassland

Computational Intelligence for Knowledge-Based System Design

Most of the papers of this book were presented in the "IGU-LUCC 2003 Moscow Workshop on Global and Regional Land Use/Cover Changes" and at International Conference "Society and Environment Interaction Under Global and Regional Changes" which was held in Barnaul (Altai), Russia in summer 2003.

Advanced Applications in Remote Sensing of Agricultural Crops and Natural Vegetation

This book features a comprehensive foresight assessment, exploring the pressures -- threats as well as opportunities -- on the global agriculture & food systems between now and 2050. The overarching aim is to help readers understand the context, by analyzing global trends and anticipating change for better planning and constructing pathways from the present to the future by focusing on the right questions and problems. The book contextualizes the role of international agricultural research in addressing the complex challenges posed by UN 2030 Agenda and beyond, and identifies the decisions that scientific leaders, donors and policy makers need to take today, and in the years ahead, to ensure that a global population rising to nine billion or more combined with rising incomes and changing diets can be fed sustainably and equitably, in the face of the growing climate threats.

Agriculture in the Sacramento Region

Spatial Information for Land Use Management

High yields and environmental control in crop farming call for precise adaptations to local growing conditions. Treating large fields in a uniform way by high capacity machinery cannot be regarded as a sustainable method for many situations. Because differences existing within single fields must be considered. The transition from former field work carried out manually or by small implements to present-day high-capacity machinery caused that the farmers lost the immediate and close contact with soils and crops. However, modern sensing and controlling technology can make up for this deficit. High tech methods that include proximal sensing and signals from satellites can provide for controls that allow adjusting farming operations to small fractions of one ha and sometimes even down to some m2, hence in a site-specific mode. This applies to operations for soil cultivation, sowing, fertilizing and plant protection. This book deals with site-specific concepts, applications and results.

GIS Applications in Agriculture, Volume Four

This book has been developed from a workshop on Technological change in agriculture and tropical deforestation organised by the Center for International Forestry Research and held in Costa Rica in

March, 1999. It explores how intensification of agriculture affects tropical deforestation using case studies from different geographical regions, using different agricultural products and technologies and in differing demographic situations and market conditions. Guidance is also given on future agricultural research and extension efforts.

OECD Economic Surveys

This Proceedings contains the papers presented at the second IFAC-CIGR Workshop on Intelligent Control For Agricultural Applications, held in Bali, Indonesia, 22-24 August 2001. The workshop provided a forum for the presentation and discussion of new results and approaches in the area of intelligent control application in agriculture and industry. The topics covered in the Proceedings range from precision farming to applications of control, neural networks and fuzzy algorithms in greenhouse technology, agricultural production and industrial processes. Also covered are quality evaluation using non-destructive methods such as ultrasonic, visible light and near infrared reflectance (NIR), as well as agricultural commodities, including fishery products as well as plants. Altogether over 50 papers are presented, including keynote papers by leading world experts.

Land Use in Advancing Agriculture

This report aims to identify the different scenarios where the process of digital transformation is taking place in agriculture. This identifies those aspects of basic conditions, such as those of infrastructure and networks, affordability, education and institutional support. In addition, enablers are identified, which are the factors that allow adopting and integrating changes in the production and decision-making processes. Finally identify through cases, existing literature and reports how substantive changes are taking place in the adoption of digital technologies in agriculture.

Geospatial Technology

With reference to India.

GIS India

Digital technologies in agriculture and rural areas

GIS Applications in Agriculture

The papers in this volume comprise the refereed proceedings of the Second IFIP International Conference on Computer and Computing Technologies in Agriculture (CCTA2008), in Beijing, China, 2008. The conference on the Second IFIP International Conference on Computer and Computing Technologies in Agriculture (CCTA 2008) is cooperatively sponsored and organized by the China Agricultural University (CAU), the National Engineering Research Center for Information Technology in Agriculture (NERCITA), the Chinese Society of Agricultural Engineering (CSAE) , International Federation for Information Processing (IFIP), Beijing Society for Information Technology in Agriculture, China and Beijing Research Center for Agro-products Test and Farmland Inspection, China. The related departments of China's central government bodies like: Ministry of Science and Technology, Ministry of Industry and Information Technology, Ministry of Education and the Beijing Municipal Natural Science Foundation, Beijing Academy of Agricultural and Forestry Sciences, etc.

have greatly contributed and supported to this event. The conference is as good platform to bring together scientists and researchers, agronomists and information engineers, extension servers and entrepreneurs from a range of disciplines concerned with impact of Information technology for sustainable agriculture and rural development. The representatives of all the supporting organizations, a group of invited speakers, experts and researchers from more than 15 countries, such as: the Netherlands, Spain, Portugal, Mexico, Germany, Greece, Australia, Estonia, Japan, Korea, India, Iran, Nigeria, Brazil, China, etc.

CIGR Handbook of Agricultural Engineering: Information technology

The increased efficiency and profitability that the proper application of technology can provide has made precision agriculture the hottest developing area within traditional agriculture. The first single-source volume to cover GIS applications in agronomy, GIS Applications in Agriculture examines ways that this powerful technology can help farmers produce a greater abundance of crops with more efficiency and at lower costs. Each chapter describes the nature of a problem, examines the purpose and scope of a GIS application, presents the methods used to develop the application, and then goes on to provide results and offer a conclusion as well as supporting information. When appropriate, the chapters present the underlying statistical approach for the GIS software that is used. Applicable data sets and color maps produced by use of GIS are included for download at the CRC webiste. Concentrating more on the approach and less on the specific software, the authors describe the methods used to develop an application and discuss limitations to the algorithms and the programming code used. They then summarize the application in terms of what it does, how it works, its limitations, and its potential uses. The book provides a toolkit for the acquisition, management, and analysis of spatial data throughout the agriculture value chain.

Intelligent Control for Agricultural Applications 2001

This book showcases how new and emerging technologies like Unmanned Aerial Vehicles (UAVs) are trying to provide solutions to unresolved socio-economic and environmental problems. Unmanned vehicles can be classified into five different types according to their operation. These five types are unmanned ground vehicles, unmanned aerial vehicles, unmanned surface vehicles (operating on the surface of the water), unmanned underwater vehicles, and unmanned spacecraft. Unmanned vehicles can be guided remotely or function as autonomous vehicles. The technology has a wide range of uses including agriculture, industry, transport, communication, surveillance and environment applications. UAVs are widely used in precision agriculture; from monitoring the crops to crop damage assessment. This book explains the different methods in which they are used, providing step-by-step image processing and sample data. It also discusses how smart UAVs will provide unique opportunities for manufacturers to utilise new technological trends to overcome the current challenges of UAV applications. The book will be of great interest to researchers engaged in forest carbon measurement, road patrolling, plantation monitoring, crop yield estimation, crop damage assessment, terrain modelling, fertilizer control, and pest control.

Agriculture & Food Systems to 2050

The Advanced Series in Agricultural Sciences is designed to ftll a long-felt need for advanced educational and technological books in the agricultural sciences. These texts, intended primarily for students of agriculture, should also provide up-to-date technical background reading for the many agricultural workers in extension services, educational systems, or international bodies. The editors of Advanced Series in Agricultural Sciences will select key subjects relating to the agricultural

environment, agricultural physics and chemistry, soil science, plant sciences, animal sciences, food technology, and agricultural engineering for a critical and synthetic appraisal. An initial theoretical presentation will be used by authors of individual volumes in the series to develop a technical approach- including examples and practical solutions- to each subject. In addressing the advanced undergraduate and early graduate student of agriculture, selected authors will present the latest information, leavened with the lessons learned from their own experience, on precise and well-defined topics. Such books that widen the horizons of the student of agriculture can serve, too, as useful reference sources for the young specialist in the early years of his career. Many specialists who are involved in teaching agricultural science are isolated from universities and research institutions. This series will bring them up-to-date scientific information, thus keeping them in touch with progress. The basic objective of Advanced Series in Agricultural Sciences is to effect a structural integration of the theoretic and technical approaches to agriculture.

Sustainable Agriculture and the Environment in the Humid Tropics

Precision agriculture (PA) involves the application of technologies and agronomic principles to manage spatial and temporal variation associated with all aspects of agricultural production in order to improve crop performance and environmental quality. The focus of this book is to introduce a non-specialist audience to the the role of PA in food security, environmental protection, and sustainable use of natural resources, as well as its economic benefits. The technologies covered include yield monitors and remote sensing, and the key agronomic principles addressed are the optimal delivery of fertilizers, water and pesticides to crops only when and where these are required. As a result, it is shown that both food production and resource efficiency can be maximized, without waste or damage to the environment, such as can occur from excessive fertilizer or pesticide applications. The authors of necessity describe some technicalities about PA, but the overall aim is to introduce readers who are unfamiliar with PA to this very broad subject and to demonstrate the potential impact of PA on the environment and economy. The book shows how farmers can place sustainability of the environment at the centre of their operations and that this is improved with the application of PA. The range of topics described includes sampling and mapping, weed and pest control, proximal and remote sensing, spatio-temporal analysis for improving management, management zones and water management. These are illustrated with case studies on sampling and mapping, biofuels from sugar cane and maize, paddy rice cultivation, and cotton production. Chapter 3 of this book is freely available as a downloadable Open Access PDF at http://www.tandfebooks.com/page/openaccess It has been made available under a Creative Commons Attribution-Non Commercial-No Derivatives 3.0 license.

Precision Agriculture Basics

Precision in Crop Farming

With the growing popularity and availability of precision equipment, farmers and producers have access to more data than ever before. With proper implementation, precision agriculture management can improve profitability and sustainability of production. Precision Agriculture Basics is geared at students, crop consultants, farmers, extension workers, and practitioners that are interested in practical applications of site-specific agricultural management. Using a multidisciplinary approach, readers are taught to make data-driven on-farm decisions using the most current knowledge and tools in crop science, agricultural engineering, and geostatistics. Precision Agriculture Basics also features a stunning video glossary including interviews with agronomists on the job and in the field.

Perspectives for Agroecosystem Management:

Written by leading global experts, including pioneers in the field, the four-volume set on Hyperspectral Remote Sensing of Vegetation, Second Edition, reviews existing state-of-the-art knowledge, highlights advances made in different areas, and provides guidance for the appropriate use of hyperspectral data in the study and management of agricultural crops and natural vegetation. Volume IV, Advanced Applications in Remote Sensing of Agricultural Crops and Natural Vegetation discusses the use of hyperspectral or imaging spectroscopy data in numerous specific and advanced applications, such as forest management, precision farming, managing invasive species, and local to global land cover change detection. It emphasizes the importance of hyperspectral remote sensing tools for studying vegetation processes and functions as well as the appropriate use of hyperspectral data for vegetation management practices. The concluding chapter provides readers with useful guidance on the highlights and essence of Volume IV through the editors' perspective. Key Features of Volume IV: Guides readers to harness the capabilities of the most recent advances in applying hyperspectral remote sensing technology to the study of terrestrial vegetation. Includes specific applications on agriculture, crop management practices, study of crop stress and diseases, crop characteristics based on inputs (e.g., nitrogen, irrigation), study of vegetation impacted by heavy metals, gross and net primary productivity studies, light use efficiency studies, crop water use and actual evapotranspiration studies, phenology monitoring, land use and land cover studies, global change studies, plant species detection, wetland and forest characterization and mapping, crop productivity and crop water productivity mapping, and modeling. Encompasses hyperspectral or imaging spectroscopy data in narrow wavebands used across visible, red-edge, near-infrared, far-infrared, shortwave infrared, and thermal portions of the spectrum. Explains the implementation of hyperspectral remote sensing data processing mechanisms in a standard, fast, and efficient manner for their applications. Discusses cloud computing to overcome hyperspectral remote sensing massive big data challenges. Provides hyperspectral analysis of rocky surfaces on the earth and other planetary systems.

National Research Initiative Competitive Grants Program

Applications of Remote Sensing in Agriculture contains the proceedings of the 48th Easter School in Agricultural Science, held at the University of Nottingham on April 3-7, 1989. The meeting invites 146 delegates from over 22 countries and contributions to this book come from nine countries. This book generally presents a review of the achievements of remote sensing in agriculture, establishes the state of the art, and gives pointers to developments. This text is organized into seven parts, wherein Parts I-III cover the principles of remote sensing, climate, soil, land classification, and crop inventories. Productivity; stress; techniques for agricultural applications; and opportunities, progress, and prospects in the field of remote sensing in agriculture are also discussed.

Unmanned Aerial Vehicle: Applications in Agriculture and Environment

Geographic Information Systems (GIS), Remote Sensing, and environmental modelling are increasingly being used to address land use and land use management issues although much of the development in these applications is based in specific case studies that are not readily accessible to a wide audience. Spatial Information for Land Use Management is designed as a reference that provides a description and discussion of the issues involved in the use of spatial information for land use management. The chapters include detailed examples of the use of spatial information in land use management. The book begins with the technological methods, examines applications in a variety of environments, and describes the ways in which issues of scale, uncertainty, linkage of models and GIS, and problem solution have been addressed.

Lockhart and Wiseman's Crop Husbandry Including Grassland

Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations for 2004

Precision Agriculture in the 21st Century

Sustainable agriculture is a key concept for scientists, researchers, and agricultural engineers alike. This book focuses on the FAM- project (FAM Munich Research Network on Agroecosystems) of the 1990s as a means to assessing, forecasting, and evaluating changes in the agroecosystems that are necessary for agricultural sustainability. The management of two separate management systems: an organic and an integrated farming system are described to provide an interdisciplinary approach Changes of matter fluxes in soils, changes of trace gas fluxes from soils, precision farming in a small scale heterogen landscape, influence of management changes on flora and fauna, as well as the development of agroecosystem models, the assessment of soil variability and the changes in nutrient status are important aspects of this book. * Contains detailed results and insight of a long-time project on agricultural sustainability * Provides an interdisciplinary approach for comprehensive understanding by scientists and researchers of soil, plants, agriculture, and environment * Includes an international perspective

Computer and Computing Technologies in Agriculture II, Volume 1

Precision Agriculture: Technology and Economic Perspectives

Sensors, satellite photography, and multispectral imaging are associated with futuristic space and communications science. Increasingly, however, they are considered part of the future of agriculture. The use of advanced technologies for crop production is known as precision agriculture, and its rapid emergence means the potential for revolutionary change throughout the agricultural sector. Precision Agriculture in the 21st Century provides an overview of the specific technologies and practices under the umbrella of precision agriculture, exploring the full implications of their adoption by farmers and agricultural managers. The volume discusses how precision agriculture could dramatically affect decisionmaking in irrigation, crop selection, pest management, environmental issues, and pricing and market conditions. It also examines the geographical dimensions--farm, regional, national--of precision agriculture and looks at how quickly and how widely the agricultural community can be expected to adopt the new information technologies. Precision Agriculture in the 21st Century highlights both the uncertainties and the exciting possibilities of this emerging approach to farming. This book will be important to anyone concerned about the future of agriculture: policymakers, regulators, scientists, farmers, educators, students, and suppliers to the agricultural industry.

Precision Agriculture for Sustainability and Environmental Protection

Though conflicts continue to arise over land use and land cover changes, the conversion of forest land to cropland or other land uses such as housing and urban development have been on the rise in recent years. Decisions regarding land use and land cover influence climate change as well as various natural processes. While proper changes can minimize the effects and speed of climatic changes, the continued adverse changes may be accelerating the deterioration of the world's condition. Examining International Land Use Policies, Changes, and Conflicts presents the latest research on the present status of land use

and land cover changes throughout the world in order to determine appropriate land use policies that can protect earth's present and future condition. The findings of the studies investigate the conflicts behind the land tenure and land uses in different countries of the world and examines existing policies and the reasons behind changes in them. Ultimately, the book provides readers with knowledge on how land can be managed in a sustained manner, how landscape models are helpful for predicting and determining future land uses, how land can be managed with the best architectural measures, and how urban forestry is helpful for better environmental management and adapting or mitigating climate change effects. Land users, agriculturalists, urban planners, policymakers, government officials, researchers, academicians, and students looking to improve their understanding of this topic for better use of land in the future will find this book to be an asset to their current research.

The SAGE Handbook of Remote Sensing

Land remote sensing: the use of space-based satellite technologies to obtain information on environmental variables such as land-use and land-covering combination with other types of data can provide information on changes in the Earth's surface and atmosphere that are critical for forecasting and responding to human welfare issues, such as disease outbreaks, food shortages, and floods. This book summarizes a workshop on the potential contributions of remotely sensed data to land-use and land-cover change and ways to use physical, biological, temporal, and social characteristics of particular locations to support decisions about human welfare. The discussions focused on human health and food security, two aspects of human welfare in which remotely-sensed environmental conditions play a key role. Examples illustrating the possibilities for applying remote sensing for societal benefit are included throughout the report. As a result of the workshop, three themes were identified that, if fostered, could help realize the potential for the application of land remote sensing to decisions about human welfare: (1) integration of spatial data on environmental conditions derived from remote sensing with socioeconomic data; (2) communication between remote sensing scientists and decision makers to determine effective use of land remote sensing data for human welfare issues; and (3) acquisition and access to long-term environmental data and development of capacity to interpret these data.

The International Yearbook of Environmental and Resource Economics

With the ability to reach many farmers with timely and accessible content, the use of information and communication technologies (ICTs) for agriculture (ICT4Ag) has the potential to transform farming and food production, worldwide. ICT4Ag supports new methods in the monitoring and management of soils, plants and livestock (precision agriculture), access to online markets, and improved communication between value chain stakeholders, among others. The services provided are vital in connecting farmers with the information they need to improve their agricultural productivity and reduce poverty. Through case studies and examples of ICT4Ag initiatives from across Asia, the Caribbean and sub-Saharan Africa, the first chapter looks at how ICT4Ag actually works to drive economic development across developing economies.

Applications of Remote Sensing in Agriculture

Rain forests are rapidly being cleared in the humid tropics to keep pace with food demands, economic needs, and population growth. Without proper management, these forests and other natural resources will be seriously depleted within the next 50 years. Sustainable Agriculture and the Environment in the Humid Tropics provides critically needed direction for developing strategies that both mitigate land degradation, deforestation, and biological resource losses and help the economic status of tropical countries through promotion of sustainable agricultural practices. The book includes A practical

discussion of 12 major land use options for boosting food production and enhancing local economies while protecting the natural resource base. Recommendations for developing technologies needed for sustainable agriculture. A strategy for changing policies that discourage conserving and managing natural resources and biodiversity. Detailed reports on agriculture and deforestation in seven tropical countries.

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