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Wild Sheep and Goats and Their Relatives - David M. Shackleton 1997

Wild caprinae, including sheep and goats, are an extremely valuable group of mammals. While most live in mountains, some inhabit desert grasslands, tropical forests or even arctic tundra. They range in size from the 30kg goral to the 350kg musk ox and display a variety of horn shapes and sizes as well as coat and body coloration. They are highly prized by hunters on account of their horns and their coats. Today, despite their important domestic relations, many wild caprinae are in danger of being lost forever: over 70 of caprinae taxa are threatened and over 30 endangered or critical. The main threats to them are over-harvesting, habitat loss and resource competition from livestock. Some face an additional threat from trophy hunters. Despite this, however, conservation legislation is either absent or, more often, poorly enforced. This action plan explores the value of caprinae to biodiversity, the threats facing the members of the species, and makes recommendations to reverse current trends. It also emphasizes the importance to carpinae conservation and survival of close collaboration among all parties involved in wildlife conservation including local peoples and hunting

organizations, governments, scientists and academic institutions.

Terrestrial Ecoregions of the Indo-Pacific - Eric D. Wikramanayake 2002
Terrestrial Ecoregions of the Indo-Pacific offers a comprehensive examination of the state of the Indo-Pacific's biodiversity and habitats, moving beyond endangered or charismatic species to quantify for the first time the number of mammal and bird species, including endemics, in each ecoregion.

Water - United Nations WWAP 2006

"The accompanying interactive, searchable and hyperlinked CD-ROM includes all of the WWDR2 data tables, graphs, charts and maps, as well as detailed sections on indicator and case study developments..."-p. [4] of cover.

Zoo and Aquarium History - Vernon N. Kisling, Jr 2022-07-08

Wild animals have been housed in zoos and aquariums for 5,000 years, fascinating people living in virtually every society. Today, these institutions are at a new milestone in their history. This second edition of Zoo and Aquarium History takes the reader on a journey through the transition of private collections to menageries, to zoos, then zoological

gardens, and more recently conservation centers and sanctuaries. Under the direction of Vernon N. Kisling, an expert in zoo history, an international team of authors has thoroughly updated the only comprehensive, global history of animal collections, menageries, zoos, and aquariums. The resulting book documents the continuum of efforts in maintaining wild animal collections from ancient civilizations through today, explaining how modern zoos have developed their mission statements around the core aims of conservation, education, research and recreation. This new edition pulls together regional information, including new chapters on zoological gardens of Canada, Latin America, China, Israel, the Middle East, and New Zealand, along with the cultural aspects of each region to provide a foundation upon which further research can be based. It presents a chronological listing of the world's zoos and aquariums and features many never-before published photographs. Sidebars present supplementary information on pertinent personalities, events, and wildlife conservation issues. The original Appendix has been expanded to include over 1,200 zoos and aquariums, providing an invaluable resource. This is an extensive, chronological introduction to the subject, highlighting the published and archival resources for those who want to know more.

Animal production and animal science worldwide - A. Rosati
2005-12-06

After the experience of the first volume, The World Association for Animal Production (WAAP) continues the publication of the Book of the Year series for the benefit of animal scientists and policy makers in the field of livestock systems. The WAAP asked the best known and significant animal scientists in the world to contribute to the preparation of this book. Following the success of the first volume of the series, the WAAP Book of the Year 2003, many authors from the six continents are contributing to this 2nd volume. The importance of this publication is to have already established a worldwide reference for the animal science and production sectors. There are the usual four sections that raised much interest in the previous volume of the series. The first section has six articles, describing the changing conditions of livestock systems in

each of the six continents. The second section has more than twenty papers, describing the development of the many sectors in which the animal science field has been divided. The third section, dealing with contemporary issues, is declared by our readers to be the most interesting. It allows participating authors to describe current and significant issues important in these last years for the animal science and production sectors. The statistics produced in the previous volume are updated and enhanced with new figures in this book to form the fourth section. The papers included in this book speak clearly of the development in the last twelve months in the livestock systems worldwide. Major space is also devoted to the list of references from where every author can start to deepen his knowledge. This book is essential for libraries that want their readers to be easily updated. Also scientists, policy makers and scientific writers, who need, to enhance their competence, to have the most practical way of knowing what is going on in the world in the field of livestock science and production will find this book of great value.

South Asian Mammals - Chelmala Srinivasulu 2012-05-19

Until now, information on mammals in South Asia has never been brought together on a single platform providing all-inclusive knowledge on the subject. This book is the most up-to-date comprehensive resource on the mammalian diversity of South Asia. It offers information on the diversity, distribution and status of 504 species of terrestrial and aquatic mammals found in Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. This work is unique being the first of its kind that deals with diversity and distribution at the subspecies level. The book is divided in to three chapters. Chapter 1 introduces the subject and takes off from the recent works on mammals at the global level, provides an historical perspective on mammal studies in South Asia and concludes with a note on recent phylogenetic changes at supraordinal levels. Chapter 2 summarizes the information on the diversity of South Asian Mammals, provides analysis by country of mammalian diversity (supported by data in tabular form) dealing with species richness, endemism and possibly occurring species, separate

analysis for each country with details on endemic and threatened species, extinct mammals, domestic mammals, and finally the IUCN status of mammals with special emphasis on threatened mammals. Chapter 3 is a comprehensive checklist that provides information on each species, including its scientific name, type details, standardized English name, synonyms, subspecies, distribution and comments on taxonomic status. Country-wise listings and analysis of species richness with emphasis on subspecies distribution Most of the analysis is supported by data in tabular forms for better understanding Notes on extinct and domesticated mammals as well as their IUCN Red List Status with criteria for such status A very comprehensive bibliography that would help readers track down specific literature

Pakistan - Pete Heiden 2011-08-01

Explore diverse landscapes, travel back in time, and discover unique populations, all without leaving your chair! Start your international tour in Pakistan, land of the Khyber Pass, the Indus River, popular Arabian Sea beaches, numerous national parks, and so much more. This colorful, informative book introduces Pakistan's history, geography, culture, climate, government, economy, and other significant features. Sidebars, maps, fact pages, a glossary, a timeline, historic images and full-color photos, and well-placed graphs and charts enhance this engaging title. Countries of the World is a series in Essential Library, an imprint of ABDO Publishing Company.

Handbook on the Economics of Ecosystem Services and Biodiversity - Paulo A L D Nunes 2014-06-27

In recent years, there has been a marked proliferation in the literature on economic approaches to ecosystem management, which has created a subsequent need for real understanding of the scope and the limits of the economic approaches to ecosystems and

Multidimensional Outlook on Environment - Sarmistha Saha 2021-04-30

This book, 'Multidimensional Outlook on Environment' is a humble endeavour by Green Feather to understand and review the impact of human behaviour on environment. At Green Feather, we are passionate about nature, ecology and the environmental challenges that we face in

the 21st century. Considering the present dire situation, Environment can no longer be taken for granted and it is imperative for us to provide conscious efforts towards its restoration. Through this book, our effort is to collate some important research studies and shed light on diverse environmental topics of importance. The topics covered in the book present a collage of various knowledge outlooks dedicated to the multidisciplinary domain of Environment. The chapters discuss some important and niche topics on environment that concerns us in today's world.

Waterbirds Around the World -

Biodiversity of Pakistan - Shahzad Ahmad Mufti 1997

Pakistan: Doing Business, Investing in Pakistan Guide - Practical Information, Regulations, Contacts - IBP USA 2018-02-03

Pakistan: Doing Business, Investing in Pakistan Guide - Practical Information, Regulations, Contacts

Faunal Diversity of Churdhar Wildlife Sanctuary Himachal Pradesh - 2014

Biological Diversity: Current Status and Conservation Policies - Vinod Kumar 2021-10-25

The present book has been designed to bind prime knowledge of climate change-induced impacts on various aspects of our environment and its biological diversity. The book also contains updated information, methods and tools for the monitoring and conservation of impacted biological diversity.

Pollination of Cultivated Plants in the Tropics - Food and Agriculture Organization of the United Nations 1995

This bulletin, based on contributions from various contributors and edited by Dr. D.W. Roubik, introduces the reader to various aspects of natural and insect pollination. It discusses the pollinators themselves, and the ecological and economic importance of pollination, as well as applied pollination in temperate, tropical oceanic islands and mainland

tropics, and alternatives to artificial pollinator populations. Prospects for the future are also discussed. Chapter 2 deals with successful pollination with pollinator populations, the evaluation of pollinators and floral biology and research techniques. The behaviour of pollinators and plant phenology and various case studies on the preparation of pollinators for use in tropical agriculture are also discussed. A glossary and various appendices regarding cultivated and semi-cultivated plants in the tropics, pollination contracts and levels of safety of pesticides for bees and other pollinators are included.

Indian Hotspots - Chandrakasan Sivaperuman 2018-08-27

This book offers a comprehensive account of India's four biodiversity hotspots: the Himalaya, Indo-Burma, Western Ghats and Sri Lanka and Andaman and Nicobar Islands. With a focus on tropical rainforests, it includes more than 30 chapters covering different vertebrate fauna e.g. fishes, amphibians, reptiles, birds, and mammals, as well as topics such as conservation and management aspects. Written by experts in the field of biodiversity conservation and management, it offers ample new insights into a number of subjects related to the faunal communities of tropical forest ecosystems, providing a valuable resource for conservationists and researchers in the field of flora and fauna diversity.

Biology and Management of Rice Insects - E. A. Heinrichs 1994

I. Fundamentals; II. Biology and ecology; III. Control tactics and strategies; IV. Implementation of rice IPM systems.

Agricultural Values of Plant Genetic Resources - Robert Eugene Evenson 1998

International concern over the threat to species and ecosystems caused by human activities is at an all time high, which may result in high costs to present and future generations. The economic costs and benefits associated with the conservation and sustainable use of genetic resources of actual or potential value for food and agriculture is largely unknown. Economic instruments that can encourage implementation of socially optimal genetic resource conservation strategies as well as the sharing of the real benefits and costs are a useful measurement tool. This book is an edited compilation of papers from the Symposium on the

Economics of Valuation and Conservation of Genetic Resources for Agriculture held in Rome in May 1996. It addresses some of the key issues involved in the estimation of the economic value of conserving genetic resources for agriculture. It covers the modelling of the value of Plant Genetic Resources (PGRs), empirical studies of PGRs (including field diversity and yield vulnerability), seven empirical studies of PGR breeding values, property rights in PGRs and the implications of modern biotechnology methods for PGR values. The book will be essential reading for workers in agricultural economics, plant breeding and genetics, and biodiversity and conservation.

Post-2015 dialogues on culture and development - UNESCO 2015-05-05

Biodiversity, Conservation and Sustainability in Asia - Münir Ahmet Öztürk 2022

Of the world's seven continents, Asia is the largest. Its physical landscapes, political units, and ethnic groups are both wide-ranging and many. Southwest, South and Middle Asia are highly populated regions which, as a whole, cover an extremely large area of varied geography. In total, this domain is unique in its plant diversity and large vegetation zones with different communities and biomes. It is rich in endemics, with specific and intraspecific diversity of fruit trees and medicinal plants, including a number of rare, high value, species. At the same time, much of the land in the region is too dry or too rugged, with many geographical extremes. Overgrazing, oil and mineral extraction, and poaching are the major threats in the area. This two-volume project focuses on the dynamic biodiversity of the region with in-depth analysis on phytosociology, plants, animals and agroecology. There are also chapters that explore new applications as well as approaches to overcome problems associated with climate change. Much of the research and analysis are presented here for the first time. We believe this work is a valuable resource for professionals and researchers working in the fields of plant diversity and vegetation, animal diversity and animal populations, and geo-diversity and sustainable land use, among others. The first volume guides our readers to West Asia and the Caucasus

region, while volume two focuses on issues unique to South and Middle Asia.

Plants and Indigenous Medicine and Diet - Nina L. Etkin 2019-12-16
First Published in 1986. Routledge is an imprint of Taylor & Francis, an informa company. Humans have long been acute observers of their biological surroundings and have been involved in dynamic relationships with ambient flora and fauna since the development of the earliest medical systems and food-getting technologies. Human-plant interactions can, then, be viewed as one expression of a population's encounter with their environment and have been the subject of considerable interest in various disciplines which seek to understand how the use of plants affects patterns of health and disease. The aim of this volume is to promote a bio-behavioral focus for indigenous plant research.

Assessing the Environmental Adaptation of Wildlife and Production Animals - Edward Narayan 2021-03-04

Wild animals under human care as well as domesticated farm production animals are often exposed to environmental changes (e.g., capture and transportation). Short-term or acute changes in physiological indices (e.g., heart rate, respiration, body temperatures, immune cells, and stress hormonal biomarkers) provide crucial information regarding the responses of animals to novel environments, and they could provide crucial determining factors for the long-term health and welfare of animals. This Special Issue includes experimental research papers that demonstrate the applications of physiological indices and welfare assessment methods (e.g., morphological and morphometric data, behavioural assessments, thermal profiles, and physiological markers) in any wildlife or production animal (e.g., rescued and rehabilitating animals, pets, competition animals, farm animals, and zoo animals), in response to environmental and management related factors. The goal is to provide examples of new research and techniques that can be used to monitor short- and long-term environmental adaptation of animals under human care.

Institutional assessment and change: Department of agriculture, government of the Punjab, Pakistan - Rana, Abdul Wajid 2021-03-15

The enactment of 18th Constitutional Amendment in 2010 was followed by devo-lution of most of the functions of the erstwhile Ministry of Food, Agriculture and Live-stock (MINFAL) to the Provinces and the MINFAL was formally abolished on June 30, 2011. Instead, a new Ministry of National Food Security and Research was established¹ for better execution of un-devolved functions as well as attaining and maintaining national food security. The functions assigned to the new Ministry are at Annex-1. This devolution of re-sponsibilities to provinces led to increased attention to agriculture² with a common notion that there is a significant untapped potential for economic growth and employment creation associ-ated with productivity improvement of traditional crops and importantly diversification to-wards high-value and climate smart agriculture, including livestock, and post-harvest value addition. Unlocking this potential for all these components requires a transformative approach that would include major policy reforms, institutional changes, and a re-orientation of public resources away from wasteful subsidies to smart subsidies and productive public investments. **Pakistan Journal of Zoology** - 2005

Wildlife Toxicology - Ronald J. Kendall 2016-04-19

Updating the extremely successful Wildlife Toxicology and Population Modeling (CRC Press, 1994), Wildlife Toxicology: Emerging Contaminant and Biodiversity Issues brings together a distinguished group of international contributors, who provide a global assessment of a range of environmental stressors, including pesticides, environmental contaminants, and other emerging chemical threats, and their impact on wildlife populations. Addresses Emerging Wildlife Threats in One Concise Volume A decade ago, many of these threats existed but were either unrecognized or considered minor issues, and all have now snowballed into major challenges for the conservation of wildlife populations. This is the first book to address these dangers in a single volume and recommend proven mitigation techniques to protect and sustain Earth's wildlife populations. Examines Species Range Shifts, Ocean Acidification, Coral Bleaching, & Impacts of Heightened UV Influx

This comprehensive reference identifies and documents examples of chemical stressor exposures and responses among ecosystem receptors worldwide. Chapters discuss emerging diseases and the expansion of pesticide/contaminant use, as well as agricultural trends and biofuels, and the widespread use of munitions and explosives from military and industrial-related activities. With the aid of several solid case studies, the book also addresses atmospheric contaminants and climate change, population modeling, and emerging transnational issues in ecotoxicology. *Wildlife Toxicology: Emerging Contaminant and Biodiversity Issues* stimulates dialogue among the academic and research communities and environmental public policy decision makers. The book challenges these groups to think more globally about environmental contaminants and their potential impacts on biodiversity and environmental degradation. Check out Ronald J. Kendall's *Advances in Biological and Chemical Terrorism Countermeasures*. Professor Kendall has been quoted recently in several news outlets in connection with the Gulf Oil Spill. Check out these articles on the CRC Press Ning page.

Ethnobotany of the Himalayas - Ripu M. Kunwar 2021-07-29

Research in recent years has increasingly shifted away from purely academic research, and into applied aspects of the discipline, including climate change research, conservation, and sustainable development. It has by now widely been recognized that "traditional" knowledge is always in flux and adapting to a quickly changing environment. Trends of globalization, especially the globalization of plant markets, have greatly influenced how plant resources are managed nowadays. While ethnobotanical studies are now available from many regions of the world, no comprehensive encyclopedic series focusing on the world's mountain regions is available in the market. Scholars in plant sciences worldwide will be interested in this website and its dynamic content. The field (and thus the market) of ethnobotany and ethnopharmacology has grown considerably in recent years. Student interest is on the rise, attendance at professional conferences has grown steadily, and the number of professionals calling themselves ethnobotanists has increased significantly (the various societies, like the Society for Economic Botany,

the International Society of Ethnopharmacology, the Society of Ethnobiology, and the International Society for Ethnobiology currently have thousands of members). Growth has been most robust in BRIC countries. This new MRW on Ethnobotany of the Himalayas takes advantage of the increasing international interest and scholarship in the field of mountain research. It includes the best and latest research on a full range of descriptive, methodological, theoretical, and applied research on the most important plants in the Himalayas. Each contribution is scientifically rigorous and contributes to the overall field of study.

Ethnobiology of Mountain Communities in Asia - Arshad Mehmood Abbasi 2021-03-26

Natural resources and associated biological diversity provide the basis of livelihood for human population, particularly in the rural areas and mountain regions across the globe. Asia is home to the world's highest mountain regions including the Himalayas, Karakorum and Hindukush. These regions are renowned around the globe because of their unique beauty, climate, and biocultural diversity. Because of geoclimatic conditions, the mountains of Asia are medicinal and food plant diversity hot spots. The indigenous communities residing in the valleys of these mountains have their own culture and traditions, and have a long history of interaction with the surrounding plant diversity. Local inhabitants of these mountain areas possess significant traditional knowledge of plant species used as food, medicine, and for cultural purposes. So far, many workers have reported traditional uses of plant species from different regions of Asia including some mountain areas; however, there is not one inclusive document on the ethnobotany of mountains in Asia. This book provides a comprehensive overview on ethno-ecological knowledge and cross cultural variation in the application of plant species among various communities residing in the mountains of Asia; cross cultural variation in traditional uses of plant species by the mountain communities; high value medicinal and food plant species; and threats and conservation status of plant species and traditional knowledge. This book should be useful to researchers of biodiversity and conservation, ethnobiologists,

ethnoecologists, naturalists, phytochemists, pharmacists, policy makers, and all who have a devotion to nature.

A preliminary survey of spider fauna of Malakwal - Maryam Sameem

Vegetation Types of the Dieng Mountains and Their Influences on Bird and Mammalian Communities - Siti Nurleily Marlina

2013-01-21

Kurzbeschreibung Der Druck des Bevölkerungswachstums auf der indonesischen Insel Java hat zu gravierender Entwaldung und Schädigung von Wäldern geführt, so dass nur noch 8,2 Prozent der ursprünglichen Waldfläche in den Jahren 2006-2007 vorhanden waren. Der Bevölkerungsdruck ließ Javas Waldflächen durch Landumwandlung in Siedlungen und Äcker weiter schrumpfen und kleine, isolierte Waldstücke an Berggipfeln wie die in den Dieng Mountains übrig. Das in der Provinz Zentral-Java gelegene Dieng Mountains Ökosystem spielt eine wichtige Rolle bei der Bereitstellung einer breiten Palette von Waren und Dienstleistungen, insbesondere bei der Versorgung angrenzender Gebiete mit Süßwasser und beim Erhalt der biologischen Vielfalt. Allerdings leiden auch die Bergwälder in den Dieng Mountains in Folge des Bevölkerungsdrucks unter Abholzung. Schlechte landwirtschaftliche Anbaumethoden haben zum Auftreten von Pestizidbelastungen, zu einem hohen Maß an Erosion, Sedimentationen von Seen und Stauseen, Erdbeben, Schlammlawinen und Überschwemmungen geführt. Waldbrände und illegaler Holzeinschlag, gefolgt von Landbeanspruchung und Wanderfeldbau, führten dazu, dass reife Bergwälder durch junge Sekundärvegetation ersetzt wurden. Wiederbewaldungen sind zu einem bedeutenden Vegetationstyp rund um das Dieng Plateau geworden, und angesichts der gegenwärtigen landwirtschaftlichen Anbaumethoden zeigt der Trend ihres Flächenausmaßes, dass sie auch in Zukunft fortbestehen werden. Bisher hat man sich wenig mit den Wiederbewaldungen in den Dieng Mountains beschäftigt; ihr Wert in Bezug auf die Funktionsweise von Ökosystemen und den Erhalt der biologische Vielfalt wurde nur unzureichend untersucht. Da Bergwälder der Dieng Mountains dafür bekannt sind,

viele endemische und seltene Tier- und Pflanzenarten zu beherbergen, ist es wichtig zu verstehen, wie Tier- und Pflanzenarten in diesem Gebiet den Habitatwandel bewältigen. Die vorliegende Forschungsarbeit ist ein Versuch, Auswirkungen von Landnutzungsänderungen, die durch anthropogene Störungen hervorgerufen wurden, auf die lokale Flora und Fauna, speziell auf Vogel- und Säugetiergemeinschaften zu untersuchen. Die Ergebnisse dieser Studie sollen einen Überblick über den gegenwärtigen Zustand des Dieng Mountains Ökosystems geben und dazu beitragen, Informationslücken früherer Studien zu schließen. Diese Untersuchung soll zuständigen Politikern Wissen über den aktuellen Stand der Dieng Mountains bieten. Sie soll ihnen ermöglichen, ein wirksames Programm mit angemessenen Zielen zu entwickeln und geeignete Maßnahmen zu ergreifen, um die ökologischen Bedingungen der Dieng Mountains zu verbessern. Unsere Ergebnisse zeigen, dass die Entwicklung der Sekundärvegetation der Dieng Mountains stark von der Geschichte ihrer Landnutzung und von den Aufforstungsprogrammen der lokalen Regierung beeinflusst wurde. Die Vegetationsstruktur der Wälder und des Buschlandes der Dieng Mountains waren einander ähnlich. Sie kennzeichnete die typische einfache Struktur mit einem offenen Kronendach und dichtem Unterholz, die in der Regel in einem tropischen Sekundärwald vorgefunden wird. Auf Grünland kamen wenige Bäume vor; kein Anzeichen der Einwanderung von Bäumen wurde in diesem Lebensraum gefunden, trotz seiner unmittelbaren Nähe zu natürlichen Waldstücken. Die relativ niedrigen Anteile von Baumverjüngungen in allen Lebensräumen können den in diesen großen Höhen rauen Umgebungsbedingungen, den Auswirkungen von Kahlschlägen in der Vergangenheit sowie der Konkurrenz von Kräutern zugeschrieben werden. Der Einfluss menschlicher Aktivitäten in diesen Lebensräumen kann auch ein wichtiger Faktor sein, der die Erholung der Vegetation verlangsamt. Die Auswirkungen der Aufforstungen auf die Gestaltung der Zusammensetzung der Sekundärvegetation zeigten sich in der Dominanz der Baumarten, die im Laufe des Programms gepflanzt worden waren: die nicht einheimischen Arten *Acacia decurrens* und *Cupressus sempervirens* und die indonesische Bergart *Shima wallichii*.

Der Pionierstrauch *Melastoma affine*, die Gräser *Imperata cylindrica* und *Isachne globosa* sowie die Ruderalarten *Eupatorium odoratum*, *Eupatorium riparium*, *Buddleja asiatica*, und *Rubus rosaefolius* dominierten die Unterholzvegetation. Insbesondere auf Grünland schien die Dominanz des kleinen Farns *Gleichenia dichotoma* das Wachstum der vorkommenden Grasarten zu unterdrücken, was zur Dominanz einer Krautart, der *Conyza javanica*, über Pioniergrasarten führte. Naturverjüngungen einheimischer indonesischer Baumarten wurden in einer relativ kleinen Zahl vorgefunden. Verglichen mit ähnlichen Studien in anderen Sekundärwäldern wurde in den Dieng Mountains eine wesentlich geringerer Reichtum an Pflanzenarten, vor allem an Gehölzarten festgestellt. Der Beitrag der Strauch- und Krautkategorien mit mehr als 80 Prozent an der gesamten botanischen Artenvielfalt zeigt den Mangel an Baumarten in unserem Forschungsgebiet an. Generell waren der Reichtum und die Diversität an Pflanzenarten im Buschland am höchsten. Der niedrigste Pflanzenartenreichtum wurde im Wald gefunden, während die geringste Diversität an Pflanzenarten auf Grünland verzeichnet wurde. Diese Ergebnisse können mit dem Grad von Störungen in jedem Lebensraumtyp zusammenhängen, wobei Buschland auf einem mittleren Niveau liegt. Die Ähnlichkeit der Zusammensetzung der Pflanzenarten war zwischen den Habitaten in jeder Kategorie sehr hoch. Dies deutet trotz des Altersunterschiedes zwischen beiden Lebensräumen darauf hin, dass Wald und Buschland noch in einem vergleichbaren Sukzessionsstadium waren, während sich Grünland wohl nicht zu Wald entwickeln wird. Wegen der anhaltenden Bevölkerungsausbreitung in den Dieng Mountains dürfte das Schicksal der sekundären Vegetation dieses Gebietes von dem Ausmaß zukünftiger Störungen durch den Menschen bestimmt werden. Vögel wurden in den verschiedenen Lebensräumen der Dieng Mountains in relativ geringen Dichten gefunden. Nach früheren Studien anderer Autoren sind niedrige Vogeldichten häufig in einer tropischen Landschaft, in der landwirtschaftliche Flächen und Flächen sekundärer Vegetation gemischt in mosaikartiger Verteilung vorliegen. Wald hatte von allen Lebensraumtypen die komplexeste Vegetationsstruktur, und er wies die

höchste Dichte und die größte Artenvielfalt von Vögeln auf. Da Vogelabundanz durch die Lebensraumtypen in ihrer Umgebung beeinflusst werden, kann die Nähe der Waldstücke zu den Urwaldresten auf den Berggipfeln positive Auswirkungen auf die Vogelpopulationen im Wald gehabt haben. Mit einer ähnlichen, aber weniger komplexen Vegetationsstruktur und -zusammensetzung als Wald wies das Buschland ein mittleres Niveau der Dichte und der Artendiversität der Avifauna auf. Trotz seines Mangels an mosaikartiger Heterogenität und des Vorhandenseins von nur einer kleinen Anzahl Bäume zwischen den Flurstücken hatten landwirtschaftliche Flächen die zweithöchste Vogeldichte. Mögliche Ursachen hierfür sind die Nähe von landwirtschaftlichen Flächen zu städtischen Gebieten und zu Buschland mit seinen Randstrukturen holziger Gewächse; diese Faktoren sind dafür bekannt, positive Auswirkungen auf die Abundanz und Artendiversität von Vögeln zu haben. Grünland wies die geringste Artenanzahl, Artendiversität und Vogeldichte auf. Die gesamte Anzahl der Vogelarten in unserem Untersuchungsgebiet war gering im Vergleich zur Anzahl Vogelarten einer früheren Studie, die auch in den Dieng Mountains durchgeführt worden war. Allerdings war die Vogelwelt in unserer Untersuchung sehr heterogen, so dass es wahrscheinlich ist, dass die tatsächliche Artenzahl deutlich höher als die erfasste war. Die meisten der erfassten Vogelarten haben eine niedrige bis mittlere Abhängigkeit von Wald und können ihre Ansprüche in einer breiten Palette von Lebensräumen decken; es wurden nur sechs Vogelarten erfasst, die vom Wald abhängig sind. Unsere Ergebnisse deuten darauf hin, dass das Dieng Mountains Ökosystem in seinem gegenwärtigen Zustand die Lebensraumanprüche von Populationen verschiedener Vogelarten decken kann. Das beruht vor allem auf dem Vorhandensein von Sekundärvegetation, die als Ersatzhabitat für waldabhängige Arten fungiert. Allerdings wird das Fortdauern dieses Zustandes hauptsächlich von der zukünftigen Ausweitung der Landwirtschaft abhängen. Eine Ausweitung der Agrarlandschaft wird letztendlich die Abundanz und die Vielfalt von Vögeln in den Dieng Mountains verringern. Lässt man es zu, dass sich die Sekundärvegetation zu einer Klimaxgesellschaft entwickelt,

so wird die Abundanz und Artendiversität von Vögeln zunehmen. Ähnlich positive Wirkungen kann nach unserer Einschätzung zukünftig die bislang im Untersuchungsgebiet noch nicht praktizierte Agroforstwirtschaft entfalten. Letztendlich muss der Zustand des Dieng Mountains Ökosystems verbessert werden, um seine Eignung als Lebensraum für seine einheimische Vogelwelt sicher zu stellen. Dreizehn kleine bis mittelgroße Säugetierarten wurden in unserem Untersuchungsgebiet mittels direkter Bestandsaufnahmen und Interviews erfasst. Zwei Arten, der schwarze Haubenlangur *Trachypithecus auratus* und der Java-Leopard *Panthera pardus melas* wurden in der Roten Liste der IUCN als gefährdet bzw. vom Aussterben bedroht eingestuft. Unsere Ergebnisse deuten darauf hin, dass die Sekundärvegetation der Dieng Mountains noch einen geeigneten Lebensraum für die Säugetiergemeinschaft aufwies, wobei im Wald und im Buschland jeweils ein viel höherer Artenreichtum herrschte als auf Grünland. Der Artenreichtum an Säugetieren war auf Ackerland fast so hoch wie im Wald und im Buschland, was bedeutet, dass die landwirtschaftlichen Flächen mit ihren angebauten Kulturen Nahrungshabitate für die meisten Säugetierarten in den Dieng Mountains bot. Die Mehrheit der aufgeführten Arten waren Lebensraumgeneralisten und fähig, sich an gestörte Umgebungen anzupassen. Hiervon sind zwei Primatenarten ausgenommen, der Javaneraffe *Macaca fascicularis* und der schwarze Haubenlangur *Trachypithecus auratus*, deren Lebensraum nur auf Wald beschränkt war. Die Ergebnisse der Habitatpräferenzanalysen von vier Arten, die direkt erfasst worden waren, waren bei drei Arten mangels ausreichender Daten wenig aussagekräftig. Das Wildschwein *Sus scrofa* zeigte eine signifikante Präferenz für Wald und Wiesen, es mied Buschland bei der Nahrungssuche. Die Mitglieder der Säugetiergemeinschaft spielen anscheinend eine wichtige Rolle als Samenverbreiter bei der Erholung der Wälder der Dieng Mountains, und wir erhoffen uns, dass diese Studie als Grundlage für die Schaffung eines wirksamen Naturschutzplans zur Verbesserung des Dieng Mountains Ökosystems dient. Betrachtet man den Trend der menschlichen

Bevölkerungsexpansion und die Landnutzungsmuster in den Dieng Mountains, mag das Schicksal der Wälder und der Tierwelt in diesem Gebiet vor allem durch die Höhe zukünftiger Störungen durch Menschen bestimmt werden. Günstigenfalls kann sich eine wechselseitige Beziehung zwischen Wald und den Menschen, die ihn nutzen, entwickeln, was ein nachhaltiges Management von Wald und Landschaft zur Folge haben könnte. Weitere Forschung ist notwendig, um die Folgen der landwirtschaftlichen Praktiken in den Dieng Mountains, einschließlich der Auswirkungen von Pestiziden und Düngemitteln auf die Wildbestände, zu untersuchen. Description The pressure from population growth in Indonesia's Java Island has resulted in grave deforestation and forest degradation, leaving only 8.2 percent of forest cover remaining in 2006-2007. Population pressure continued to shrink Java's forest cover through land conversion into settlement areas and agricultural fields, leaving small, isolated forest patches situated on mountain tops, like the ones found in the Dieng Mountains. Located in Central Java Province, Indonesia, the Dieng Mountains ecosystem has an important role in providing a wide range of goods and services, especially in supplying freshwater to its adjacent areas and maintaining biodiversity. However, the montane forests in the Dieng Mountains suffer from degradation caused by population pressure. Poor farming practices have resulted in the occurrence of pesticide pollution, a high level of erosion, soil sedimentation in lakes and reservoirs, landslides, and mud floods. Forest fires, illegal logging, forest looting, followed by land encroachment and shifting cultivation, have replaced the mature montane forests with young secondary vegetation. Regrowth forests have become the major vegetation type surrounding the Dieng Plateau, and with current farming practices, the trend of their formation indicates that they will persist into the future. So far, little has been done to deal with regrowth forests in the Dieng Mountains, and their value in terms of ecosystem functioning and biodiversity preservation has been insufficiently studied. Since the Dieng montane forests are known to harbor many endemic and rare wildlife species, it is important to understand how wildlife species in this area cope with habitat change.

This research is an attempt to examine the impact of land use change resulting from human-induced disturbances to the local flora and fauna, specifically to bird and mammal communities. The results of this research will provide an overview of the present condition of the Dieng Mountains ecosystem and help to fill in the information gaps left by previous studies. This research will provide policymakers with knowledge of the current state of the Dieng Mountains, allowing them to develop an effective program with reasonable goals and take appropriate actions in their effort to improve the ecological conditions of the Dieng Mountains. Vegetation data were collected in habitats that represent various ages of second-growth vegetation, namely woodland, shrubland, and grassland. A stratified systematic sampling with a random start was used to collect data on various growthforms of plant species. Vegetation parameters (i.e. species density, dominance, diameter class distribution) were then calculated. Plant species richness and diversity, and stands similarity were analyzed using SPADE. The bird census was carried out in the same locations chosen for vegetation surveys using the point transect distance method, with additional data collections in agricultural land. The results were then analyzed using the programs DISTANCE 6.0 release 2 for estimating the bird densities, and SPADE for estimating bird species richness and diversity. Surveys of mammal signs were also carried out in the same locations chosen for vegetation surveys and bird censuses by using a strip transect of 2-m width, crisscrossing the habitats in a random direction. Mammal species richness and the habitat preference of each species were then analyzed. In addition, interviews with local people were also conducted to gather supplementary information regarding the mammalian community in the Dieng Mountains. Our results show that the development of the secondary vegetation of the Dieng Mountains was highly influenced by its land use history and reforestation programs run by the local government. The vegetation structure of woodland and shrubland of the Dieng Mountains were similar, characterized with the typical simple structure normally found in a tropical secondary forest, an open canopy, and dense undergrowth. Few trees populated the grassland; no sign of tree invasion

was found in this habitat, despite its close proximity to natural forest patches. The relatively low tree regenerations in all the habitats may be attributed to harsh environmental conditions caused by the high altitudinal location and the impact of forest clearings in the past, as well as competition with herbs. The effect of human activities in those habitats may also be an important factor slowing down the vegetation recovery. The impact of reforestations in shaping the floristic composition of the secondary vegetation was seen in the domination of tree species planted during the course of the program: the non-native species *Acacia decurrens* and *Cupressus sempervirens*, and Indonesian mountain species *Schima wallichii*. Pioneer shrub species *Melastoma affine* and grass *Imperata cylindrica* and *Isachne globosa*, as well as ruderal species *Eupatorium odoratum*, *Eupatorium riparium*, *Buddleja asiatica*, and *Rubus rosaefolius* dominated the undergrowth vegetation. Specifically in grassland, the small fern *Gleichenia dichotoma*'s domination seemed to suppress the growth of coexisting grass species, leading to the domination of a herb species, *Conyza javanica*, over pioneer grass species. Native Indonesian tree species were discovered as natural regrowth in a relatively small number. Compared with similar studies in other secondary forests, the richness of plant species found in the Dieng Mountains was considerably lower, especially that of woody plants. The contribution of the shrub and herb categories to more than 80 percent of the total species richness indicates the scarcity of tree species in our research area. In general, plant species richness and diversity were found highest in shrubland. The lowest species richness was found in woodland, while the lowest plant species diversity was recorded in grassland. These results may be related to the level of disturbance in each habitat, which shrubland experienced at an intermediate level. The similarity of plant species composition among habitats in each category was very high. This suggests that woodland and shrubland were still in a comparable stage of succession, despite the age difference between both habitats, while grassland may not succeed in developing into a forest. Considering the trend of population expansion in the Dieng Mountains, the fate of the secondary vegetation

in this area may be determined by the level of future interference by humans. In various habitats in the Dieng Mountains, birds were found in relatively low densities. Based on previous studies by other authors, the occurrence of birds in low densities is common in a tropical landscape in which farmland and secondary vegetation are mixed into mosaics. The woodland of the Dieng Mountains, which had the most complex vegetation structure compared with the other habitat types, bore the highest bird density and species diversity. As bird assemblages are influenced by their surrounding habitat types, the bird populations in woodland may have been positively affected by woodland's proximity to the patches of remnant forests on the mountain tops. With a similar, yet less complex vegetation structure and composition than woodland, shrubland had an intermediate level of bird density and species diversity. Despite its lack of mosaic heterogeneity and the presence of only a small number of trees between plots, agricultural land placed second in bird density. Possible causes for this include the proximity of agricultural land to urban areas and its adjacency to shrubland, which provided woody edge habitat; these factors are known to have positive effects on bird abundance and diversity. Grassland had the lowest species richness, species diversity, and bird density. The overall bird species diversity in our study area was low compared with the number of bird species listed in a previous study that also took place in the Dieng Mountains in 2001. However, the bird community was highly heterogeneous, making it likely that the actual species richness was considerably higher than the observed one. Most of the bird species encountered have a low to medium dependency on forest and a broad range of habitat suitability; only six forest-dependent species were recorded. Our results suggest that in its current state, the Dieng Mountains ecosystem can still meet the needs of various bird species populations. This is mainly because of the presence of secondary vegetation, which functions as a substitute habitat for forest-dependent species. However, the persistence of this condition will depend mainly on future agricultural expansion. An expanding agricultural landscape will eventually reduce the abundance and diversity of birds in the Dieng Mountains. Allowing the secondary

vegetation to develop into a climax community will increase avian abundance and species diversity. Agroforestry, not yet widely practiced in the study area, also has the potential to have similar positive effects on the avifauna. Nevertheless, the condition of the Dieng Mountains ecosystem still needs to be improved to assure its suitability as a habitat for its native avifauna. Thirteen small to medium-sized mammal species were recorded in our study area through direct surveys and interviews. Two species, the Javan langur *Trachypithecus auratus* and Javan leopard *Panthera pardus melas*, were categorized as vulnerable and critically endangered, respectively, under the IUCN Red List. Our results suggest that the second-growth vegetation of the Dieng Mountains still provided a suitable habitat for the mammalian community, with woodland and shrubland each supporting much higher species richness than grassland. The species richness observed in agricultural land was almost as high as that of woodland and shrubland, implying that agricultural land with its cultivated crops provided food and habitat for most mammal species in the Dieng Mountains. The majority of species listed were habitat generalists and capable of adapting to disturbed environments, except for two primate species, the long-tailed macaque *Macaca fascicularis* and Javan langur, whose habitat was confined only to woodland. The results of habitat preference analyses of mammal species recorded directly in the field were mostly inconclusive, owing to the lack of sufficient data. The most meaningful result was with the wild boar *Sus scrofa*, which showed a significant preference towards woodland and grassland, while avoiding shrubland for foraging. With their function as seed dispersers, the mammalian community's members play important roles in the Dieng Mountains forest recovery, and therefore we expect this study to serve as a basis for establishing an effective conservation plan towards the improvement of the Dieng Mountains ecosystem. Considering the trend of human population expansion and land use patterns in the Dieng Mountains, the fate of forests and wildlife in this area may mostly be determined by the level of future interference by humans. At best, a mutual relationship can develop between the forest and humans utilizing it, which would give rise to sustainable forest and landscape

management. Further research is needed to study the consequences of agricultural practices in the Dieng Mountains, including the effects of pesticides and fertilizers on wildlife populations.

Bats - Heimo Mikkola 2018-07-04

Bats have a poor image for the public at large because they are often feared. This is usually due to ignorance. In this book, we have eight chapters on bats covering countries such as Algeria, Bulgaria, France, Pakistan, Poland, the UK and the USA and subjects ranging from acoustic monitoring of bat species for distribution and conservation purposes to various bat-borne and bat-carried diseases. These diseases cannot be taken lightly but should not be a reason for panic or to fear or even kill bats. Bats will not cause any harm if we let them live in peace. With the added knowledge through this book, we should know how best to cope with bats, which need all our support in the changing environments and climates.

Environmental Pollution, Biodiversity, and Sustainable Development - Hasnain Nangyal 2020-01-28

Environmental Pollution, Biodiversity, and Sustainable Development: Issues and Remediation provides an extensive summary of biodiversity. It is the result of the assistance of environmentalists, researchers, policy experts, and academicians from across the globe sharing their research and knowledge on biodiversity and ways to mitigate the threat from climate change, over-utilization of natural resources, pollution, and more. The volume considers that biodiversity encompasses a wide range of biological processes, ranging from genetic diversity, species, populations, communities and ecosystems to landscapes and regions. This book, written by a panel of international experts in biodiversity, conservation biology, and evolution from different countries, including Iran, Pakistan, India, Bangladesh, Tajikistan, Russia, and others, highlights the human impact on biodiversity hotspots on a global scale. The volume provides an abundance of valuable research for faculty, students, and researchers in environmental sciences, government agencies, and many others.

Regional Study on the Causes and Consequences of Natural

Disasters and the Protection and Preservation of the Environment
- 1992

Amphibians and Reptiles of Pakistan - Muhammad Sharif Khan 2006

"Muhammad Sharif Khan presents the most authoritative illustrated compendium on Pakistan's amphibians and reptiles—a work with no peer in its geographic realm. The book represents the distillation of nearly 40 years of research. Most species are illustrated in full color, and the text includes identification keys, descriptions, natural history, and distribution maps. This is a valuable guide for zoos and institutions, reptile keepers, and natural history travelers in Pakistan. It will be useful not only in Pakistan but in all the surrounding countries, the general region, and beyond."

The Food Security, Biodiversity, and Climate Nexus - Mohamed Behnassi 2022-10-20

This volume is the outcome of an international cooperation between 73 scientists, experts, and practitioners from many countries, disciplines, and professional areas. As a part of a series of CERES publications, the volume attempts to contribute to the scientific debate about the food–biodiversity–climate nexus by developing a comprehensive region-specific and broader global understanding of the linkages between these areas, especially in the context of Global South. Instead of providing only modern science-based solutions for the nexus related challenges, the volume covers case studies that present mixed solutions, offering the use of traditional ecological knowledge in combination with modern science for both resilience and sustainability. This is increasingly instrumental in shaping the needed response options regarding the economic, social, and environmental future of the world. Based on a multi-regional and cross-sectoral analysis, the approach consists of: assessing the different natural and anthropogenic factors currently affecting ecosystems and their services, especially the impacts of climate change; highlighting the different linkages between the state of biodiversity and food systems in many contexts and scales; and exploring the various response mechanisms to effectively manage the implications of such linkages.

Most chapters provide inputs for future relevant research and policy agendas.

Pakistan: Doing Business and Investing in Pakistan: Strategic, Practical Information, Regulations, Contacts - IBP, Inc. 2015-06
Pakistan: Doing Business and Investing in ... Guide Volume 1 Strategic, Practical Information, Regulations, Contacts
Conserving International Wildlife Resources - United States. Department of State 1985

Birds of Pakistan - Richard Grimmett 2021-01-07

This guide is a successor to the much acclaimed Birds of the Indian Subcontinent by two of the same authors. Covering Pakistan, the superb plates are accompanied by a succinct text highlighting identification, voice, habitat, altitudinal range, distribution and status. The text is on facing pages to the plates, for easy reference and there are distribution maps for every species. Like previous guides covering Nepal, Bhutan, Northern India and Southern India, this guide is a perfect size for use in the field and will be an essential companion when visiting this region.

Punjab University Journal of Zoology - 1994

Where Communities Care. Community Based Wildlife and Ecosystem Management in South Asia - 7801iied - Ashish Kothari

2000

Public Interest Environmental Litigation in India, Pakistan, and Bangladesh - Jona Razzaque 2004-01-01

This research examines the growth and expansion of public interest environmental litigation (PIEL) in India and analyses the changes that are influencing the development of PIEL in Bangladesh and Pakistan. The necessity for this research lies in the rapid degradation of environment and the need of efficient environmental management in the three countries of the South Asian region. Here, we compare the legal systems of the three countries from the environmental point of view, discuss new ideas and directions and critically analyse the legal provisions that would help to apply environmental norms. These offer the legislators a chance to find out what can be applied in their own region, thus developing their existing legal mechanisms. About the author Jona Razzaque is barrister and holds a PhD in law from the University of London. She works in the field of access to environmental justice and has published numerous articles on this issue. She taught law in Queen Mary College and School of Oriental and African Studies under the University of London. She is currently working as a lawyer in the Foundation for International Environmental Law and Development (FIELD) on cross-themed projects related to bio-diversity, trade and climate change.