



proponents of biotechnology in international development.'-Paul Richards, Professor of Technology and Agrarian Development, Wageningen University, The Netherlands 'A lucid analysis of the decision-making in international agricultural research, which emphasizes a technical, commercial approach. Malnutrition is far better tackled with a biodiversity approach that makes available local foods that can be eaten fresh and are free.'-Suman Sahai, Convenor, Gene Campaign, New Delhi 'Rice Biofortification convincingly illustrates the tenacity of the top-down linear research paradigm, which unfortunately still dominates the international agricultural research agenda. How researchers can effectively work with local contexts is an important issue, which the author handles admirably.'-Joachim Voss, independent research professional, formerly Director General of the International Centre for Tropical Agriculture (CIAT), Cali, Colombia Biofortification - the enrichment of staple food crops with essential micronutrients -has been heralded as a uniquely sustainable solution to the problem of micronutrient deficiency, or 'hidden hunger'. Considerable attention and resources are being directed towards the biofortification of rice - the world's most important food crop. Through an in-depth analysis of international rice biofortification efforts, from offices in the US to laboratory and field sites in the Philippines, this book provides an important critique of such goal-oriented, top-down approaches. The author argues that these approaches exemplify a model of global 'public goods' science that is emerging within complex international research networks. It provides vital lessons for those researching and making decisions about science and research policy, showing that if this model becomes entrenched, it is likely to channel resources towards the search for 'silver bullet' solutions, at the expense of more incremental approaches that respond to locality, diversity and the complex and uncertain interactions between people and their environments. The author proposes a series of key changes to institutions and practices that might allow more context-responsive alternatives to emerge. These issues are particularly important now as increasing concerns over food security are leading donors and policy-makers to commit to ambitious visions of 'impact at scale' - visions which may never become a reality and may preclude more effective pathways from being pursued. MATHKNOW Mathematics, Applied Science and Real Life *Springer Science & Business Media* Mathematics forms bridges between knowledge, tradition, and contemporary life. The continuous development and growth of its many branches, both classical and modern, permeates and fertilizes all aspects of applied science and technology, and so has a vital impact on our modern society. The book will focus on these aspects and will benefit from the contribution of several world-famous scientists from mathematics and related sciences, such as: Ralph Abraham, Andrew Crumey, Peter Markowich, Claudio Procesi, Clive Ruggles, Ismail Serageldin, Amin Shokrollahi, Tobias Wallisser. Vicos and Beyond A Half Century of Applying Anthropology in Peru *Rowman Altamira* From 1952 to 1962, anthropologists funded by Cornell University sought to apply anthropological knowledge to improving life in Vicos, a village of about 1,800 people in the Peruvian Andes. This collection evaluates the methods and results of the famous, and even infamous, Vicos Project. The Hungry World America's Cold War Battle Against Poverty in Asia *Harvard University Press* The ambition to lead Asia into an age of plenty grew alongside development theories that targeted hunger as a root cause of war, Scientific agriculture was an instrument for molding peasants into citizens with modern attitudes, loyalties, and reproductive habits. But food policies were as contested then as they are today. While Kennedy and Johnson envisioned Kansas-style agribusiness guarded by strategic hamlets, Indira Gandhi, Marcos, and Suharto inscribed their own visions of progress onto the land. -- Bulletin of the Atomic Scientists The Bulletin of the Atomic Scientists is the premier public resource on scientific and technological developments that impact global security. Founded by Manhattan Project Scientists, the Bulletin's iconic "Doomsday Clock" stimulates solutions for a safer world. Promises and Predicaments Trade and Entrepreneurship in Colonial and Independent Indonesia in the 19th and 20th Centuries *NUS Press* Indonesia's trajectory towards successful economic growth has been long and capricious. Studies of the process often focus either on the Netherlands Indies or independent Indonesia, suggesting the existence of fundamental discontinuities. The authors of the 17 essays in this book adopt a long-term perspective that transcends regimes and bridges dualist economic models in order to examine what did and did not change as the country moved across the colonial-postcolonial divide, and shifted from reliance on exports of primary products to a multi-centred economy. The aim is to analyse how economic development grew out of the interplay of foreign trade, new forms of entrepreneurship and the political economy. The authors deal with entrepreneurship and economic specialization within different ethnic groups, the geographical distribution of exports and resource drains from exporting regions, and connections between an export economy and mass poverty. One recurring issue is the way actors from different ethnic groups occupied complementary niches, highlighting the rich variety of roles played by Asian entrepreneurs. A study of the international sugar trade shows how regime change fostered co-operation between different ethnic groups and nationalities involved with trading networks, inter-island shipping, urban public transport, and the construction sector. A comparison of export earnings and population groups involved in trade before and after 1900 shows that unexpected agricultural and industrial transitions could underpin a fundamental shift in income growth, with improved living standards for broad sectors of the population. Agricultural Biotechnology in China Origins and Prospects *Springer Science & Business Media* Agricultural Biotechnology in China: Origins and Prospects is a comprehensive examination of how the origins of biotechnology research agendas, along with the effectiveness of the seed delivery system and biosafety oversight, help to explain current patterns of crop development and adoption in China. Based on firsthand insights from China's laboratories and farms, Valerie Karplus and Dr. Xing Wang Deng explore the implications of China's investment for the nation's rural development, environmental footprint, as well as its global scientific and economic competitiveness. A Guide to Los Baños for IRRI International Staff & Families *Int. Rice Res. Inst. Writing Guidelines for Applied Science Students* *Social Science Press* How do I write a report to a grower? What does plagiarism mean? What should a research report look like? Where do I start looking for information? All these questions and more will become important to you when you are studying science and applied sciences. Whether you are at university or polytechnic, this book will guide you through the assignment writing process. This revised edition updates APA referencing (fifth edition), extends the chapters on presenting data and accessing information, and offers additional tips on how to avoid plagiarism and use secondary sources effectively. Writing Guidelines for Science and Applied Science Students is an invaluable resource for students and teachers alike. It is essential reading for all who write or design assignments in science courses as well as agriculture, horticulture and related fields of study. Pure and Applied Science Books, 1876-1982 Over 220,000 entries representing some 56,000 Library of Congress subject headings. Covers all disciplines of science and technology, e.g., engineering, agriculture, and domestic arts. Also contains at least 5000 titles published before 1876. Has many applications in libraries, information centers, and other organizations concerned with scientific and technological literature. Subject index contains main listing of entries. Each entry gives cataloging as prepared by the Library of Congress. Author/title indexes. Feeding a Hungry Planet Rice, Research, and Development in Asia and Latin America *Univ of North Carolina Press* Rice is the food crop the world depends on most. In Feeding a Hungry Planet, James Lang demonstrates how research has benefited rice growers and increased production. He describes the life cycle of a rice crop and explains how research is conducted and how the results end up growing in a farmer's field. Focusing on Asia and Latin America, Lang explores lowland and upland rice systems, genetics, sustainable agriculture, and efforts to narrow the gap between yields at research stations and those on working farms. Ultimately, says Lang, the ability to feed growing populations and protect fragile ecologies depends as much on the sustainable on-site farm technologies as on high-yielding crop varieties. Lang views agriculture as a chain of events linking the farmer's field with the scientist's laboratory, and he argues that rice cultivation is shaped by different social systems, cultures, and environments. Describing research conducted by the International Rice Research Institute in the Philippines and by the International Center for Tropical Agriculture in Colombia, he shows how national programs tailor research to their own production problems. According to Lang, the interaction of research programs, practical problem solving, and local extension efforts suggests a new model for international development. Publications of the International Agricultural Research and Development Centers *IRRI* The Serengeti Rules The Quest to Discover How Life Works and Why It Matters - With a new Q&A with the author *Princeton University Press* Now the subject of a feature film that the New York Times calls "spellbinding" How does life work? How does nature produce the right numbers of zebras and lions on the African savanna, or fish in the ocean? How do our bodies produce the right numbers of cells in our organs and bloodstream? In The Serengeti Rules, award-winning biologist and author Sean Carroll tells the stories of the pioneering scientists who sought the answers to such simple yet profoundly important questions, and shows how their discoveries matter for our health and the health of the planet we depend upon. One of the most important revelations about the natural world is that everything is regulated—there are rules that regulate the amount of every molecule in our bodies and rules that govern the numbers of every animal and plant in the wild. And the most surprising revelation about the rules that regulate life at such different scales is that they are remarkably similar—there is a common underlying logic of life. Carroll recounts how our deep knowledge of the rules and logic of the human body has spurred the advent of revolutionary life-saving medicines, and makes the compelling case that it is now time to use the Serengeti Rules to heal our ailing planet. A bold and inspiring synthesis by one of our most accomplished biologists and gifted storytellers, The Serengeti Rules is the first book to illuminate how life works at vastly different scales. Read it and you will never look at the world the same way again. Edison: A Biography *Plunkett Lake Press* A great folk hero in American history, Edison is viewed by the public as a facile inventor, the electrical wizard and the perfect symbol of the self-made and practical creator. But he was also a paradoxical figure: deaf, impoverished and with no formal education as a youngster, Edison nevertheless became a fertile and versatile inventor, accumulated fortunes for himself and others but remained indifferent to wealth except as a means towards more inventions. Edison's key contributions include the carbon microphone, the electric light bulb, electricity distribution systems, the phonograph and the motion-picture camera. Edison's methods were also remarkable: halfway between the craftsman-tinkerer of the early 19th century and the scientist of today, he established and ran pioneering research laboratories with large staffs, yet lacked training in mathematics or the basic sciences. Matthew Josephson's Edison: A Biography won the Society of American Historians' Francis Parkman Prize in 1960. "This is an outstanding biography... [Josephson] establishes the developing relationship between finance and invention which constitutes the basis for Edison's success... [He] has mastered the substance of Edison's inventive activity and has written of it quite authoritatively and vividly." — Thomas P. Hughes, Technology and Culture "... It is clear that there is reason to welcome yet another book about a man of whom so much has been written. It must have been precisely because so much in the Edison record is myth, fostered by adulators and by Edison himself that Mr. Josephson turned his skillful, corrective hand to a saga that may have seemed more familiar than it actually is. From his well-presented, well-written findings emerges a giant without whom much of life as we live it would simply not exist. It is a first-rate job that needed doing." — John K. Hutchens, New York Herald Tribune "A well-researched account of the life of one of America's authentic folk heroes--Thomas Alva Edison--an original creator with a genius for strategic invention... Thoroughly absorbing, this significant volume is a competent contribution to the history of American science, and gives not only a sharply drawn picture of this self-educated giant of invention, but also of the beginnings of the telegraph, electrical, record, motion picture and automobile industries, as well as the sociological changes that were wrought by Edison's practical discoveries." — Kirkus Review "A biography that is dignified, detailed, and objective, sprinkled with moments of humor, pathos, and drama... One of the chief virtues of this book is the care taken by the author to build up a realistic picture of Edison the man." — F. Garvin Davenport, The American Historical Review Ecology of Practice *Routledge* First Published in 1998. Routledge is an imprint of Taylor & Francis, an informa company. The Doubly Green Revolution Food for All in the Twenty-First Century *Cornell University Press* Today more than three quarters of a billion people go hungry in a world where food is plentiful. A distinguished scientist here sets out an agenda for addressing this situation. Initially published in 1997 in the United Kingdom, the book is now available in the first edition produced for the Western hemisphere. In it, the author has updated information to reflect current economic indicators. This volume includes a foreword written for the previous edition by Ismail Serageldin of the World Bank. The original Green Revolution produced new technologies for farmers, creating food abundance. A second transformation of agriculture is now required—specifically, Gordon Conway argues, a "doubly green" revolution that stresses conservation as well as productivity. He calls for researchers and farmers to forge

genuine partnerships in an effort to design better plants and animals. He also urges them to develop (or rediscover) alternatives to inorganic fertilizers and pesticides, improve soil and water management, and enhance earning opportunities for the poor, especially women. Asian Rice Bowls The Returning Crisis? *Int. Rice Res. Inst.* Introduction: the state of rice in post-green-revolution Asia; Rice productivity growth: the case against complacency; Sustaining farm profits through technical change; Intensification-induced degradation of the paddy resource base; Erosion, pollution and poison: externalities and rice; Asian rice market: demand and supply prospects; GATT and rice: impact on the rice market and implications for research priorities; Agricultural commercialization and farmer product choices: the case of diversification out of rice; Strategic look at factor markets and the organization of agricultural production beyond 2025; Post-green-revolution seed technology for intensive rice systems; Fertilizers and pesticides: higher levels versus improved efficiencies; Dealing with labor scarcity: mechanical technologies. *Plant Breeding Reviews, Part 2 Long-term Selection: Crops, Animals, and Bacteria John Wiley & Sons Plant Breeding Reviews, Volume 24, Part 2* presents state-of-the-art reviews on plant genetics and the breeding of all types of crops by both traditional means and molecular methods. The emphasis of the series is on methodology, a practical understanding of crop genetics, and applications to major crops. *Computational Mathematics in Engineering and Applied Science ODEs, DAEs, and PDEs CRC Press* Computational Mathematics in Engineering and Applied Science provides numerical algorithms and associated software for solving a spectrum of problems in ordinary differential equations (ODEs), differential algebraic equations (DAEs), and partial differential equations (PDEs) that occur in science and engineering. It presents detailed examples, each