

Book Review

World Agriculture and Environment: A Commodity-by-Commodity Guide to Impacts and Practices. By Jason Clay. 2004. Island Press, 1718 Connecticut Avenue NW, Suite 300, Washington DC 20009. 570 p. paper, \$45.00, ISBN 1-55963-370-0.

This comprehensive reference book provides a good overview of global agriculture at the end of the millennium. In the introduction, author Jason Clay brings his long experience—in farming, teaching, and government service—into the presentation of a balanced perspective on how production must be balanced with concern for the environment. Now with World Wildlife Fund, he couples a background in economics, anthropology and geography with considerable professional experience in aquaculture and cooperation in the private sector to explore multiple aspects of agriculture and food production. He is particularly effective in discussing the economic and environmental sustainability of the food system, although he also brings in social dimensions such as over-consumption, human obesity, and waste in the system in the North as contributing factors to our global dilemma over food.

In chapter 1, the global trends in agriculture toward specialization and monoculture in an industrial model are discussed. The author avoids providing a strong opinion about this direction in agriculture, but clearly points out the consequences of such development. There is a question about the sustainability of a globalized food system, detailed descriptions of threats of large-scale cultivation of key commodities on the environment, and concern about having such a strong human reliance on a narrow array of food crops. He does present a rather shallow criticism of low-input agricultural methods, and suggests that small farms in fact cause most environmental damage. This contradiction in the book is key to the dilemma faced by all who analyze world food production. Author Clay explores the vertical integration in the food industry, the unfair burden of most risk on the farmer, and inequities in the system. He also identified population increase and expansion onto marginal lands as a priority issue, and suggests that more intensive production on the best lands is essential.

In a discussion of agriculture and the environment, the author's background is displayed to strong advantage as he explores loss of soil and agricultural lands, importance of biodiversity and effects of pollution, scarcity of water and useful energy, and global climate change. These issues must be solved if the human species is to continue to thrive,

and the specific questions that are raised as a result of large-scale raising of each of 21 major commodities are discussed in detail.

The major strength of the book is in this group of 21 chapters on commodities, a valuable reference for people who want a quick overview of the current status of production, economics and environmental impacts of these principle enterprises on the global scene. Each chapter provides a map of distribution, useful statistics, an overview of the commodity, profiles of both producing and consuming countries, discussion of different production systems, processing, aspects of marketing, current environmental impacts and alternatives that could mitigate them, and an outlook for the future. Ample references are provided for each commodity to provide credibility for the chapter and lead the reader to a more in-depth review of that topic. The commodities included range from the major cereals and root crops to specialties such as coffee, tea, and cocoa, fiber crops including cotton and wood pulp, rubber, and three animal species—beef, shrimp, and salmon. These are chosen in part because of their current and potential future environmental impact, not just on share of total consumption on a global scale.

For a general reader less interested in specific commodities, it would be useful to skip to the conclusions where the author provides a summary of key issues and recommendations that need to be addressed. These include land use zoning and regulations, retiring marginal lands and improving degraded areas, farming with nature, eliminating subsidies, paying farmers for environmental services, addressing social equity in distribution of benefits, using regulations and incentives to promote better management practices, and improving certification and labeling. This daunting list covers that litany of improvements that are discussed by a number of authors, but this book has the authority of a person who has spent a career looking at environmental impacts and the strength of the chapters that lead up to these conclusions. *World Agriculture and Environment* is an excellent reference book, and the two first chapters and conclusions would be useful for anyone interested in gaining a quick overview of the global production situation in regard to environment. These sections would be appropriate to an introductory class in world agriculture and food systems.

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