Amazonian Dark Earths

This book resulted from presentations at the First International Workshop on Terra Preta de Indio (Indian Black Earth) held in Manaus, Brazil, July 10–19, 2002. Amazon Dark Earths (ADE) are dark-colored (dark brown to black), high organic, and generally enriched in nutrients such as P. These soils are in such contrast to other soils of the humid tropical lowlands that they were of keen interest in the 1870s and interest continues today. According to the editors, this publication provides the first comprehensive review of Amazonian Dark Earths. These unique soils are thought to have resulted from past human activity and, thus, they have been of interest to a wide spectrum of scientists, especially in archaeology, history, anthropology, ecology, geography, and soil science.

The book is divided into four sections: I. Discovering Amazonian Dark Earths, II. Properties of Amazonian Dark Earths, III. Methods for Characterization of Amazonian Dark Earths, and IV. Amazonian Dark Earth Management. The book has a total of 23 chapters with nearly equal numbers of chapters for the four sections. Over 50 authors contributed to the writing of the book.

Section I has chapters on development of Anthrosol research, historical perspective, historical and sociocultural origins of ADE, distribution of ADE, and classification of ADE. These soils occur along major rivers in all regions and landscapes in Amazonia; they are in nonfloodable land and in well-drained positions. The ADEs are found on a variety of soil types; however, Ferralsols and Acrisols are the most common. Although this book concentrates on ADEs in the Brazilian Amazon, they also occur in other Latin American countries. The introduction of the archaeo-anthropedogenic horizon and the Archaeo-Pedological Classification Legend in the classification chapter was interesting and may provide application to classifying soils at archaeological sites in other regions.

The chapters in the section on Properties of Amazonian Dark Earths include chapters on soil fertility and production potential, ADEs as carbon stores and sinks, soil organic matter stability, agrobiodiversity, and ethnoscientific understanding of ADEs. The discussion on soil organic matter stability in ADEs was very interesting and informative.

Methods for studying ADEs include archaeological, organic chemistry, micromorphology, nutrient bioavailability, soil physical characterization, biological measurements, and pedo-geochemical and mineralogical analyses. The background information on the methods described provides a good understanding of their application to archaeological studies.

The last section of the book on Amazonian Dark Earth Management provides information on specific studies relating to land use practices,
natural and cultural processes, sustainability of fertility, and weed management. The last chapter gives insights into historical ecology of the region and development of research priorities for the study of ADE. The nine priorities listed in the chapter appear to be well developed and would provide a much clearer picture of the genesis of these soils and their implication to society. Multidisciplinary studies are recognized as vital to the understanding of the role of ADEs as a cultural resource in Amazonian history.

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