

Book Review

Organic Soils of Malaysia

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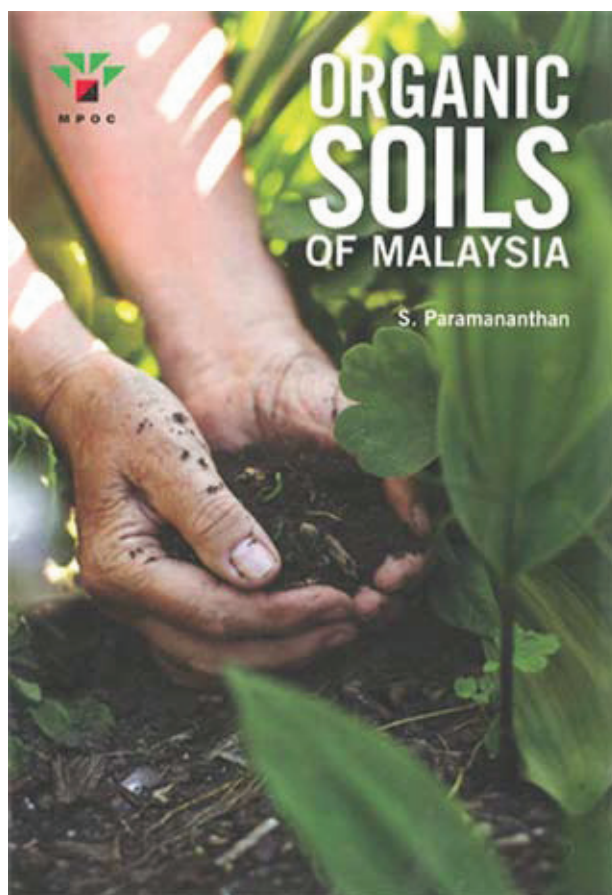
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Review by B. H. Lim

Peat soil is synonymous with organic soil. When one thinks of peat soil in the Southeast Asian context, images that come to mind are of oil palm and pineapple plantations, which are sources of income for a substantial population of rural workers; less favorable images would be of uncontrolled and raging peat fires resulting in the almost annual occurrence of eye-watering and cough-inducing haze which travels unhindered across national boundaries. Naturally, accusing and angry fingers are pointed at the oil palm plantations whenever this phenomenon happens.

In this book, Dr. Paramanathan discusses all that and more, in 10 chapters:

1. General introduction
2. Extent of tropical peat
3. Characteristics of tropical lowland peats
4. The mapping of tropical lowland organic soils
5. The classification of organic soils of Malaysia
6. Conservation of tropical lowland peatlands
7. Land characteristics influencing the growth and performance of oil palms planted on organic soils
8. Organic soil management groups and sub-groups
9. Best management practices for the development of peat swamps



10. Current issues, recent findings and knowledge gaps

The book starts off with a brief introduction to the extent of peatland in Malaysia (over 300,000 km², ranking it as top three in Southeast Asia). However, the author is also quick to point out that there is a dearth of soil data using updated, comprehensive and robust classification methods. Most of the numbers on peatland areas are, at best, estimates, with diverse reports having vast differences in values.

An extensive discourse on the definition of organic soils (or peat), tropical peatland (as opposed to temperate peatland) and organic material (as opposed to minerals) is presented. Depth of organic layer, water table level and soil temperature range are among some defining parameters for tropical peatlands.

Emphasis is made in the evaluation of tropical peatlands from a local perspective instead of relying on past and current studies in the West. Indeed, to fit Western models of temperate peatland on tropical peats would be misguided as differences in climate and wood composition would be reflected in differences in carbon fluxes and decomposition rates in peatlands when responding to hydrological changes and land development.

With over fifty years of experience in the field of soil sciences, Dr. Paramanathan is certainly familiar with the state of soil research locally and globally. Hence, he is well-poised to guide the reader through the technicalities of peat soil. Through this book he also sounds the clarion call for more standardized local peatland studies and mappings to serve as bedrocks for future land policies.

Laypersons with general interests in soil, serious students in agronomy, soils sciences and environment; agriculturists, and policy makers would benefit from dipping their toes into the pool of knowledge that is within this book:

- For those who are studying soil sciences, the book is a treasure trove of technical details. Land areas of peatland at various sites are tabulated, soil compositions of various peatlands are categorized, and comparison

between classification systems for peatland is provided. Methods and tools for mapping peatland are also included.

- For oil palm plantation managers, best management practices are listed for handling the various pests, weeds and fungi that are encountered in the field. Recommendations for increasing oil palm yield on nutrient and mineral limited peats are provided. For other crops, their suitability to be planted on organic soil is also evaluated.
- For policy makers, several cogent arguments are made that run counter to the Western concepts and models of land and carbon conservation. In terms of green house gas emissions, the effect of agricultural development of peat in the tropics is still up for debate if one were to consider all the variables. Compared to other oil-producing crops such as rapeseed and soybean, oil palm produces more oil per unit of land area. Habitat loss for the orang utan and elephants due to peatland development is a sore point of contention, but as raised in the book, with more detailed studies, land authorities should be better able to make decisions.

Overall, this book is clearly written with the objective of introducing the reader to peat soil in Malaysia and its use in sustainable oil palm cultivation. Technical details are supplied without being convoluted. The many diagrams in the book are clear and serve to elucidate the text descriptions of, among others, the various soil structures, mapping tools and peat soil phasic communities. This book is an excellent primer with abundant references for readers to delve deeper on their own.