
Preface

Bangladesh is a very small country with only about 15 million hectares of land but it has to take care of more than 150 million people, providing habitation and food. The actual land:person ratio is ever-shrinking and the amount of land available to a person now stands at less than 0.05 ha. This has forced soil scientists to devote much attention to a better understanding of this natural resource so that increased food could be produced using the best inputs. As a result terms such as *sustainable soil management*, *food security*, and *soil resilience* have been the most pronounced and discussed topics during the last decade. If the term *sustainable* means “the same forever,” then the meaning of sustainability will be of little interest as the population of the country has already become unbearably large and is already putting a lot of pressure on soils. Sustainability for Bangladesh could be seen as gradual improvement and simultaneous maintenance without further degradation over a long period of time. The challenges to sustainable land management in Bangladesh are twofold. The first is to boost crop production and to maintain the production level while maintaining the soil quality of the agricultural lands and second, to alleviate the already degraded lands in such a way that these lands are improved to an environmentally sustainable and acceptable quality. For food security the country has to restore sustainable agriculture. One of the key elements in sustainable agriculture is the greater efficiency of resource use. Soil resilience relates to the ability of soil systems to return to their original state after the withdrawal of stress that soil undergoes during soil management. The stresses could generate from natural as well as anthropogenic operations. In fact, soil resilience is thought to be the balance between soil’s restorative and degradative stages. The processes that are thought to be important for soil resilience are (a) maintenance of soil organic matter content; (b) improvement in soil physical and chemical properties; (c) maintenance of soil biodiversity; (d) reduction in soil degradation; (e) control of soil erosion rates below the soil formation rate; and (f) increase in nutrient reserve and recycle mechanisms (Hussain et al. 2002).

For a densely populated country such as Bangladesh with a gradual increase in population and scarce and shrinking land, the terms sustainable land management, food security and soil resilience do carry a positive meaning. The soil scientists of this country have been working quickly to achieve and materialize these over the last hundred years or so.

In as much as the livelihood and economy of this part of the Indian subcontinent depended on agriculture, the relevant scientists used and manipulated the soil to increase productivity without giving much emphasis to soil properties. However, as pressure for increased food production mounted due to population growth, soil scientists started looking deeper into the soils of the region and initiated a systematic study of the soils. Soil survey, soil classification, rational use of chemical and biological inputs to the soil, and the like emerged as priorities.

This book is a compilation of existing knowledge of the soils of Bangladesh. The book has been organized in such a manner that any person interested in the utilization of

soil could make use of it. The chapters include a brief introduction, a history of soil studies in this part of the Indian subcontinent, the geomorphology, physiography, soil classification, soil fertility, and information on the problem soils of the country, as well as land use and soil management practices. Human intervention and soil degradation are also the subject of a chapter. Possible research priorities, administrative policies, and other actions that are needed for maintaining quality soil for future generations have been dealt with in the last chapter.

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Reference

Hussain MS, Elahi SF, Eswaran H, Islam S, Uddin MJ (2002) Challenges of sustainable land management in Bangladesh. GIS laboratory publication no. 1. Department of Soil, Water and Environment, University of Dhaka, Dhaka 1000, Bangladesh, pp 77 (ISBN: 934-32-0196-5)

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