

VOLUME I

**Soil Erosion Status, Sociological, Institutional and Legislative Factors in
Soil Conservation.**

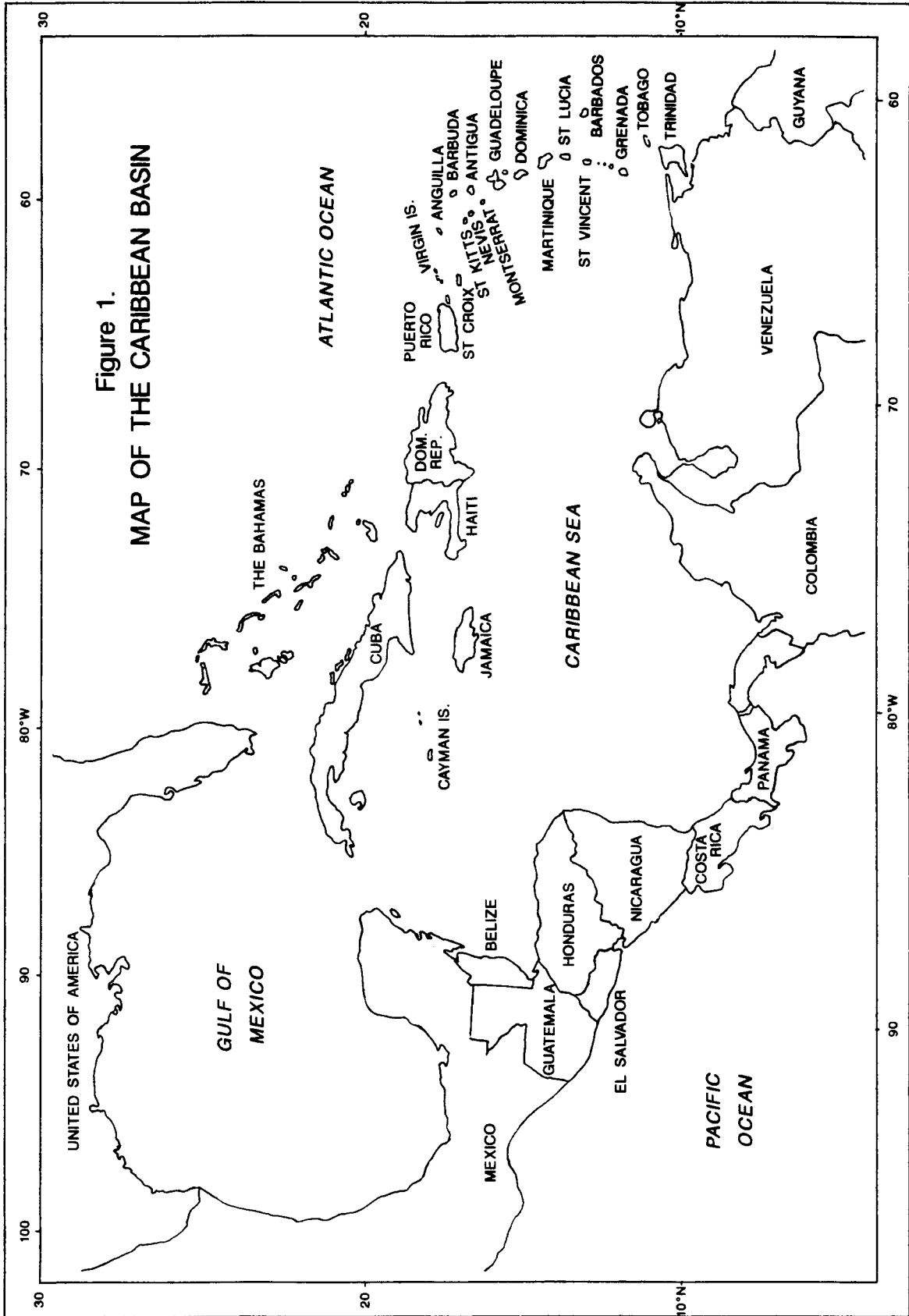
CHAPTER 1

INTRODUCTION

Soil erosion by water is the main form of soil loss in the Caribbean and conservation measures designed to reduce this type of soil loss is considered in this book. Here Caribbean refers to the English speaking Caribbean Community (CARICOM) Member States of Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada and Carriacou, Guyana, Jamaica, Montserrat, St. Kitts-Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. These are sometimes referred to as the Commonwealth Caribbean and are all members of the Commonwealth. The location of these States in the Caribbean Basin is shown in **Figure 1**.

Belize and Guyana are also Commonwealth countries on the mainland of Central America and South America, respectively. Neither country is very mountainous and almost all of the agriculture is practised on flat land. Soil erosion is therefore not a major problem in these two countries, although some erosion does occur on the relatively flat, poorly structured, sandy soils of the intermediate savannas. Water runoff from heavy rainfall, especially during the early part of the wet season when the ground is not adequately covered with vegetation, erodes soil from the surface of these relatively infertile, fragile soils. The maintenance of adequate vegetation is usually enough to conserve the soil against erosion. Methods of conserving these soils from erosion are not considered any further in this text.

The other countries are islands and can be divided into **three groups** based on size and topography. The first group of small islands consists of land of relatively low elevation and a small percentage of steep slopes e.g. Antigua and Barbados. The second group is also small islands but is characterized by a high percentage of steep slopes e.g. Dominica, Grenada and Carriacou,



Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent, Tobago. The third group is the larger islands of Trinidad and Jamaica which have high percentages of both flat or gently sloping land and steep land. Most of the islands belong to group two.

The mountainous nature of the topography in most of the islands, high rainfall, and poor soil management practices cause excessive soil erosion by run-off. Many attempts have been made over the years to demonstrate soil conservation techniques, provide training and encourage adoption by farmers. However, the adoption and sustainability have not been commensurate with the investment in time and money. Soil conservation has not generally become a part of the culture of the farmers.

Many of the introduced methods are frequently those that have been tried and successfully adopted in other countries such as North America and the Far East where the economic, social and cultural context is different. The methods must take the local situation into consideration and must also consider the needs, desires and resources of the farmer. New approaches therefore have to be considered to ensure adoption and sustainability. In the Caribbean, soil conservation methods must be cheap or cost effective and must fit into the sociological and socio-economic conditions of the farmer. Conservation ideally must be integrated into the farming system.

This book is presented in two volumes. **Volume I** examines the status of soil erosion and conservation in the Caribbean, sociological factors in soil conservation and the institutional and legislative framework in which soil conservation is implemented and managed. These factors are as important as the technology of soil conservation for successful adoption and sustainability. **Volume II** focuses on technology. It examines the farming systems approach to soil conservation and the methods appropriate for integrating into farming systems in the Caribbean. The Hillside Agricultural Project of Jamaica, the major project in the Caribbean which attempted to use the integrative approach is also discussed in this volume. Finally, existing and proposed systems for integrating soil conservation into farming system are also presented.