

# A Proposal for the Compilation of a Soil Profile Analytical Database for West Africa

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## Abstract

The digital map of West Africa at scale 1:5 million makes regional modelling using various pedo-transfer functions possible. The establishment of West African soil profile analytical database linked to an update of this soil map containing various soil properties, analysed according to standard methodologies, will strengthen the knowledge base on the physical environment in the region significantly. Based on the experience gained from the establishment of a similar database for Europe, a proposed methodology for a West African soil analytical database is outlined. Such database can prove an invaluable source of information for a wide range of agricultural and environmental interpretations.

*Key words:* Soil database, West Africa

## Introduction

During the second half of this century, national or regional soil surveys have been carried out in many countries throughout the world including countries in West Africa. Only a few countries have produced national soil maps at medium to large scales (1:50,000 or larger.) However, in many countries minor parts have been mapped and published at large scales as 1:5,000, 1:10,000 and 1:25,000. The development of information technology during the last two decades has led to the computerisation of some national soil maps and, in the years to come, it is expected that most of the other national soil survey maps will be digitised.

Because of the incompatibility of different national soil classification systems around the world, an international soil legend was developed in the 1960s and 1970s by FAO (FAO-Unesco, 1974). As a result, soil map

of the world at scale 1:5,000,000 was constructed according to this system (FAO-Unesco 1971-1980). The system has since been revised following various lessons learned from national and regional surveys such as the EC soil map at scale 1:1,000,000 (Commission of the European Communities, 1985). In 1988, a revised legend was published (FAO-Unesco-ISRIC 1988), but the soil map of the world at scale 1:5,000,000 was not revised in accordance with the new legend. A world soil resources map at 1:25 million scales was published instead (FAO, 1993a). In 1998, at the last ISSS congress, the world reference base for soil resources, WRB-systems, was launched (FAO-ISRIC-ISSS, 1998).

For West Africa, the FAO-Unesco soil map of 1974 at scale 1:5,000,000 is still the most comprehensive representation of the soils of the whole sub-region. A digital version of the