



Deutscher Tropentag, October 9-11, 2002, Witzenhausen
“Challenges to Organic Farming and Sustainable Land Use
in the Tropics and Subtropics”

**Soil Fertility Management in Semi-Arid India: Its Role in
Agricultural Systems and the Livelihoods of Poor People**

BARBARA ADOLPH¹, JOHN BUTTERWORTH¹, SATHEESH PERIYAPATNA², G N S REDDY³

¹*University of Greenwich, Natural Resources Institute, United Kingdom*

²*Deccan Development Society, India*

³*Institute for Rural Development (BAIF), India*

Abstract

It is commonly assumed that rainfed areas face a soil fertility crisis. While there are concerns, a research study carried out in 2001/2002 in two districts of semi-arid India by the Natural Resources Institute, the Deccan Development Society and the BAIF Institute for Rural Development challenges the view that farmers are not managing soil fertility carefully, and that simply more external inputs will improve livelihood. It offers alternatives based on consultation with farmers and analysis of a wide range of case studies. The research findings have implications on development programmes, future research and policy.

The study focused on two poor groups: small and marginal farmers and how they are managing soil fertility and the soil-related problems on their farms, and (often landless) families engaged in the trade of organic fertilisers, such as farmyard manure (FYM) and vermicompost. The research included a combination of reviews and fieldwork using both quantitative and qualitative methods, such as farm resource flow mapping. Fieldwork covered four villages each in both Andhra Pradesh (Medak District) and Karnataka (Tumkur/ Hassan Districts).

Key findings are:

1. In the study areas there is little evidence that soil productivity is in decline. In fact, yield trends and the views of farmers suggest that productivity is stable or increasing.
2. Farmers are actively managing soil fertility and other soil properties through a wide range of practices and significant inputs of labour, knowledge and capital.
3. While the overall number of livestock is decreasing in the study areas, the proportion of landless and small farmers owning livestock is increasing. Livestock ownership opens up new opportunities for the poor, including trade in FYM and compost.
4. The strong demand for organic inputs and changes in livestock ownership have led to a rapidly expanding market for organic fertilisers. With improved access to the supply of FYM, some of the poor and landless are in a strong position to benefit from this trade.
5. Farmers expressed concern about negative impacts of chemicals on soils such as hardening and compaction, and the soil becoming ‘addicted’ to fertiliser applications.

Keywords: Chemical fertilisers, farmyard manure, India, organic matter, rural livelihoods, semi-arid tropics, soil fertility management, vermicompost, video documentation