



Improving Soil Health and Fertility through Agroecological Practices in Ghana: An Intervention Study

Improving Soil Health
and Fertility through

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[354](#)

30

Akwasi Ababtree

*Noguchi Memorial Institute for Medical Research
University for Development Studies (UDS)*

Amagyan Ayikushie

University for Development Studies (UDS)

Dr Frances Davies

University for Development Studies (UDS)

Sandra Duncan

*University of Professional Studies, Accra (UPSA)
University for Development Studies (UDS)*

Correspondence: aababtree@aol.com

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Abstract

Agroecological practices are crucial for sustainable soil health in Ghana's agricultural landscapes. A mixed-methods approach was employed, including pre- and post-intervention assessments using soil analysis and farmer surveys. Data were collected from 50 randomly selected households. Significant improvements were observed in soil organic matter (SOM) levels after the intervention period, with an average increase of 12% in SOM content compared to baseline measurements. Agroecological practices showed promising results in enhancing soil health and fertility, which can contribute to sustainable agricultural productivity in Ghanaian farming communities. Further research should be conducted to validate these findings across different regions and socio-economic contexts. Policymakers should consider promoting agroecology as a key strategy for soil conservation. The empirical specification follows $Y = \beta_{0+\beta} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African agroecology, soil health indicators, sustainable intensification, farmer participatory research, agroforestry practices*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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