

PDF - ECONOMICS OF SOIL CONSERVATION PRACTICES AMONG SMALL SCALE FARMERS IN ENUGU STATE - researchcub.info **ABSTRACT**

The study investigated the economics of soil conservation practices among small-scale farmers in Enugu State. The study used multi-stage random probability sampling method and the primary data were collected from 120 farmers using structured questionnaire. Data on the socio-economic status of the farmers, forms of land/soil degradation in the study area, methods/technologies used in combating them, intensity of adoption of selected soil conservation practices, costs and benefits of selected methods of conserving the soil and constraints to adoption of soil conservation practices were obtained. Data obtained were analyzed using percentages, cost-benefit analysis and multiple regression analysis. Based on the 2007/2008 cropping season, it was noted that male (70%) were more involved in soil conservation practices than female (30%). Most of the farmers (61%) had no formal education. Land acquisition was mostly through inheritance (77%). Fifty three percent of the farmers have been in active farming for about 21 – 30 years. Membership of farm organization by farmers was still low (16%). It is noted that 60% of the farmers had never been visited by the extension agents. The major form of soil/land degradation identified in the study area is reduced soil fertility (41%). Majority (43%) of the farmers said that the methods of soil conservation used are indigenous to them. The prevalent soil/land management forms in the study area are inorganic fertilizer, livestock manuring, intercropping, cover cropping and leaving crop residue. The study showed the guiding factors to adoption of soil conservation technologies/ methods by respondents as improved yield (return), access to credit, concern for soil erosion and other related soil problems, ownership of land, climatic change, and capital access. The study indicated that out of the thirteen (13) methods of soil conservation mostly used, 77% of the farmers adopted between 1-6 methods. This showed that the intensity of adoption is relatively low. The farmers that used intercropping, inorganic fertilizer, cover cropping, leaving crop residue and livestock manure combination as method of soil conservation have the highest gross margin of ₦ 36750 and benefit-cost of 2.18. The effect/ relationship between farmers' socio-economic characteristics and intensity of adoption of soil conservation practices showed a coefficient of determination, R^2 of 63.2% which was a good fit. The test of influence of the socio-economic characteristics of on farmer's adoption intensity shows that these characteristics have significant influence on adoption intensity at 5%. There is a significant correlation between the benefits and the cost of soil conservation practices ($r=0.936$, $p<0.05$). Access to credit, small farm size, and lack of trainings, poor infrastructure and poor returns were the major constraints to adoption of soil conservation practices by farmers. It was recommended that land should be well defined and property right to land well enforced. Finally, farmers were encouraged to form farm co-operatives for easy training and access to farm assistance.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND INFORMATION

Soil may be defined as a natural body of loose and unconsolidated materials found on the earth's surface; it is derived from weathered parent rock materials and decaying organic matters and it is composed of solid particles with liquid and or gases occupying the spaces between the particles (Ohaeri, 2000). It is on this solid that most agricultural as well as nonagricultural activities take place. The food we eat, the raw materials needed by the industries are derived from there, directly or indirectly. An enduring food security will depend on a sustainable and productive resource base (Amaechina, 2000).

Soil conservation is an investment to enhance the future productive capacity of the soil, it implies reducing risks of soil erosion to a tolerable limit (Laparand Pandey, 1999). It is also a set of management strategies for prevention of the soil being eroded from the earth's surface or becoming chemically altered by over use, salinization, acidification, or other chemical soil contamination (Pagiola, 1993). It also entails not only control over erosion but all those other measures like correction of soil defects, application of manures and fertilizers, proper rotations, irrigation, drainage, which aim at maintaining the productivity of the soil at a high level (Government of India, 2006). Soil conservation is also viewed as the use of those practices which will maximize the present value of the long-run returns from land use (Kaine, 1991).

The need for soil conservation arises due to signs of deteriorating agricultural environments which include erosion, flood disaster, desert encroachment and drought, deforestation, loss of land to other uses; if not checked, the soil becomes degraded. Soil degradation can be defined as a reduction in the land's actual or potential uses. If this occurs, productivity is affected, leading to rise in the level of inputs and hence, costs needed to restore soil productivity (Ohaeri, 2000). Douglas (1992) stressed that degradation can be slowed or arrested by large range of methods including cultural practices like minimum tillage and contour ploughing, vegetative covers and mechanical measures such as terraces and channels. The principal approaches that soil conservation strategies may take include; vegetative cover, erosion prevention, salinity management, soil pH control, encouraging health of beneficial soil organisms, prevention and remediation of soil

contamination and mineralization (Pagiola, 1993).

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