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Farmer's Perception on Soil Fertility Status and Soil Fertility Management in Semi-Arid Areas of Central Tanzania

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Abstract

Declining soil fertility is among an influential factors contributing to insecure household food security among other in Central semi-arid regions of Tanzania. A comprehensive study was undertaken at Idifu and Ilolo villages in Dodoma Region to investigate farmers' perceptions on current soil fertility status, indicators of soil degradation and exiting farmers' initiatives on soil fertility management. Semi-structured interviews were conducted in 206 households and analysed by descriptive statistics and inferential statistics using Chi-square test at $p < 0.05$. Results showed that (67.6 %) of the households interviewed perceived that soil fertility has declined. Key indicators of low soil fertility across study villages include occurrence of noxious weed i.e. *Striga* infestation/ Alectra vogelii (67. 6 %) and stunted plant growth (43 %). Perceived reason for continued nutrient mining overtime include soil erosion (77 %) occurring at landscape; extensive grazing system widely practised in the area (72 %); burning of crop residues during land preparation (78 %) locally called "kuberega". In addition, there is misconception that uses of chemical fertiliser destroy soils (33 %). Findings clearly noted that about 47 % per cent of household interviewed lack knowledge on soil fertility management. The most common practice employed by farmers to reverse low soil fertility problems in the study villages encompasses fallowing (7 %), use of ridges (4 %) and crop rotation (11 %), intercropping (38.4 %) and only 2 % of farmers own livestock applying farmyard manure. In view of these, during 2014/2015 cropping season Trans-SEC Project has initiated participatory action research on integrated soil water and fertility management across locations as sound strategies for improving household food security using mother and baby approach.

Keywords: Central Tanzania, farmers perception, farmers practice, semi-arid areas, soil fertility

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