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Assessment of Soil Erosion and Soil Conservation Practices in Angereb Watershed, Ethiopia: Technological and Land User Context

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Abstract

Soil conservation technologies that fit well to local scale and are acceptable to land users are increasingly needed. To achieve this at small-holder farm level, there is a need for an understanding of specific erosion processes and indicators, the land users' knowledge and their willingness, ability and possibilities to respond to the respective problems to decide on control options. This study was carried out to assess local erosion and performance of earlier introduced conservation terraces from both technological and land users' points of view. The study was conducted during July to August 2008 at Angereb watershed on 58 farm plots from three selected case-study catchments.

Participatory erosion assessment and evaluation were implemented along with direct field measurement procedures. Our focus was to involve the land users in the action research to explore with them the effectiveness of existing conservation measures against the erosion hazard. Terrace characteristics measured and evaluated against the terrace implementation guideline of Hurni (1986). The long-term consequences of seasonal erosion indicators had often not been known and noticed by farmers. The cause and effect relationships of the erosion indicators and conservation measures have shown the limitations and gaps to be addressed towards sustainable erosion control strategies. Less effective erosion control has been observed and participants have believed the gaps are to be the result of lack of land users' genuine participation. The results of both local erosion observation and assessment of conservation efficacy using different aspects show the need to promote approaches for erosion evaluation and planning of interventions by the farmers themselves. This paper describes the importance of human factor involving in the empirical erosion assessment methods towards sustainable soil conservation.

Keywords: Erosion control, erosion indicators, land-user participation