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Emerging Erosion Risk in South-West Ethiopia: Farmers Preparedness and Soil Conservation Strategies

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Abstract

Soil erosion, a significant challenge of Ethiopian agriculture, has been intensively studied and addressed within the past decades. Efforts have mainly focused on areas with a long history of heavy agricultural pressure, namely the northern highlands of Ethiopia. In recent years government programs started to pay attention to other parts of the country that are increasingly affected.

One of those emerging risk areas is Kafa Zone in South-West Ethiopia. Until today it has a substantial forest cover of about 50 %, but erosion risk is rising due to expansion of agricultural activities. To analyse the preparedness of farmers in the region, erosion risk was modeled and interviews were carried out. The erosion risk of the study area and its administrative units was computed with the Unit Stream Power based Erosion Deposition Model (USPED), using parameters of the Universal Soil Loss Equation (USLE). Modelling was done in five different basic scenarios and additional sub-scenarios, to account for the uncertainty of the quality and quantity of existing soil conservation measures. Interviews were held with farmers and agricultural extension workers to evaluate existing knowledge and awareness, relevant farming practices and applied conservation measures in the context of soil erosion.

Interview results suggest that knowledge about soil erosion and potential soil conservation measures is relatively widespread in the area, while the implementation level of conservation efforts is low. Traditional and biological measures are predominantly seen as favourable options even though introduced physical measures are assessed as being more effective in reducing erosion. To increase the effectiveness of actions taken by the government, activities of the different sections of the agricultural offices could be further streamlined. Contextualisation of conservation measures could have a positive impact on the acceptance of conservation measures and their overall success.

Keywords: Ethiopia, farmers' awareness, soil conservation measures, soil erosion, USPED