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Soil erosion modeling and soil quality evaluation for catchment management strategies in northern Ethiopia

Participatory assessments, soil physical and chemical analyses, geo-statistics and erosion modeling were applied to evaluate soil degradation and management strategies for the Mai-Negus catchment in northern Ethiopia. Farmers used indicators such as crop yield and soil depth, color and erosion risk for categorizing soils into high, medium and low quality. Soil attributes were significantly different among the categories. Interpolated soil attributes and erosion model results are consistent with the soil quality identified by the farmers. It can thus be concluded that farmers' knowledge can be used as decision support for effective intervention and policy actions.