

## Simulation of catchment hydrologic response under changing land use: case of upper Molo river catchment, Kenya

The urban and agricultural developments have led to changes in catchment hydrologic response. To clearly understand the effect of land use change on catchment hydrologic response, a study was carried out in the Upper Molo River catchment in Kenya. This study applied a modelling approach for simulating the changes in catchment response as a result of land use change using Soil and Water Assessment Tool (SWAT). The results of the land cover change analysis showed a reduction of 11% forest cover which was due to increased agricultural and settlement areas for the period 1986 to 1995. In response to this land use change, the simulation results for 1986 and 1995 land cover maps, showed a 13.3% increase in surface runoff and an increase in sediment yield increased of 1.2 t/ha. Although the results did not show much significant change in the catchment response, there were some notable negative