

Temporal hydrologic response of unstable crusting soils in Semi- arid areas of Kenya

Abstract:

Over the past three decades, agricultural watersheds in semi-arid Kenya have experienced some rapid decline in soil and crop productivity due to severe soil erosion, low soil water, low soil fertility and high soil crusting and compaction. Thus, the management of these watersheds requires some good understanding of agricultural drought, stratification of production zones according to slope, and suitable conservation options that include in-situ water conservation and runoff utilization. The planning of watershed conservation requires the application of runoff models in the selection of interventions that reduce upstream flood magnitude and downstream sedimentation. Successful interventions can be introduced under enabling conditions to farmers at various hierarchical policy levels. A few of these enabling conditions that are elaborated upon include agricultural policy, focus on smallholder agriculture and public- community partnerships.