

**Title:** Effect of land use on selected soil properties in University of Embu

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### **Abstract**

Human population's pressures on land resources have increased the need to assess impacts of land use change on soil quality. In order to assess effects of land use changes on soil quality properties in University of Embu, soil samples were collected from different land use systems. The samples were collected from cultivated, grazed and forested land at a depth of 0-30cm. Each land use system was divided into three 2m by 2m plots arranged in a completely randomized design and replicated three times. Soil samples were analyzed for differences in pH, bulk density and moisture content. Differences in soil properties between land use systems were compared using analysis of variance using R statistical software. Means was separated using Tukey's test. Results from this study showed that conversion of natural forest into land for cultivation and grazing had a significant effect on soil pH, moisture and bulk density. It was observed that soil bulk density was significantly high in grazed and cultivated land in comparison to forested land. Soil moisture was observed to vary with the different land uses, with forested area having more soil moisture than grazed and cultivated areas. Based on these results, there is a need to consider appropriate management practices for increasing soil sustainability and productivity at the University of Embu.