

## ABSTRACT

Worldwide people depend on ecosystem services for their survival but the nature of that dependence is hardly ever fully understood. While many researches describe links between ecosystem services and dimensions of poverty, few provide sufficient context to enable a thorough understanding of the contribution of ecosystem services to livelihoods. A considerable dearth of knowledge remains in understanding the links between ecosystem services and how human wellbeing can be improved through the utilization of ecosystem services. Kenya ranks highly as one of the countries rich in biodiversity but continues to face the challenge of poverty with people depending on these services remaining poor. Despite the presence of variant ecosystems in Kibwezi Sub-County, 50.5% of the population live below the poverty line. There is a general expectation that ecosystem services should benefit human wellbeing and help secure livelihoods especially the rural poor. Therefore, the purpose of this study was to examine the contribution of ecosystem services to livelihoods in Kibwezi Sub-County, Makueni County. The objectives of this study were to: determine the contribution of higher plant species richness to the communities' livelihoods; determine the influence of water availability on food crop and livestock production and establish the effect of socio-cultural ecosystem services on communities' livelihoods in Kibwezi Sub-County. A cross-sectional descriptive research design was used. Households were covered as sampling units from a total population of 248,704 persons. A minimum sample size of 384 household heads were interviewed. Purposive sampling was used to get key informants. Primary data were collected through questionnaires, key informant interviews, Focus Group Discussions, field observation and photography. Secondary data were obtained from published and unpublished reports. Pearson product moment correlation was used to establish relationship between higher plant species richness and number of livelihoods supported. Least squares regression analysis was used to predict the relationship between rainfall, amount of water used during irrigation and food crop yields. Qualitative data was analysed by creating patterns and themes, then evaluating the usefulness of information in answering the research questions. The study revealed that Kibwezi Sub-County is endowed with 60 higher plant species with a significant strong correlation: between higher plant species richness and the area dominated by the plant species ( $r=0.721$ ,  $p<.05$ ), and the number of livelihoods supported by the plant species ( $r=0.896$ ,  $p<0.5$ ). About 67.2% of the variation in total rainfed crop yields was explained by total monthly rainfall amounts for short rains ( $r^2= 0.672$ ,  $p< .01$ ), while 51.9% of variation in total irrigated crop yields was explained by total amount of water used for irrigation ( $r^2=0.519$ ,  $p<.01$ ). The Chi-Square test results (Asymp. Sig.) of 0.011 showed that socio-cultural ecosystem services and livelihoods were related. The study concluded that in Kibwezi Sub-County, higher plant species influence livelihoods with only few people utilizing them, water availability influence food crop and livestock production while few people are aware that socio-cultural ecosystem services influence livelihoods like tour guiding, handcraft selling and cultural troupe performance. The study recommends sufficient utilization of higher plant species to support more livelihoods, tree planting, regeneration and agroforestry to increase the number of higher plant species, intensive water harvesting and awareness creation on the value of socio-cultural ecosystem services to the livelihoods of local communities in Kibwezi Sub-County.