

## ABSTRACT

Apart from being few, studies on agroforestry in ASALs have failed to consider different categories of farmers depending on the number of years they have practiced the technology. This has led to scanty information to the advocators of agroforestry and individual farmers in need of agroforestry information. This study therefore determined effective agroforestry technologies suitable for Kenya's ASALs based on the prevalence and adoption levels in Chepareria and Lelan sub-locations of West-Pokot County. The study employed independent group research design. A total of 181 households were selected (90 in Chepareria and 91 in Lelan from a target population of 2199 households). Data was collected through questionnaires, key informants drawn from field officers and contact farmers, and direct field observation. Mann-Whitney U test and kruskal Wallis test were used to analyze data with the aim of determining significant differences between and among independent groups. The results indicated that most common agroforestry technologies include boundary tree planting, home-garden, woodlot, scattered trees, alley cropping, and fodder bank. The six technologies across the study area were dominated by boundary tree planting (Chepareria 63.4%, Lelan 68%). However, there was no significant difference in the prevalence of agroforestry technologies between the sub-locations ( $U = 1685$ ,  $d.f = 1$ ,  $N = 181$ ,  $P = 0.378$ ). In addition, the difference in the adoption levels of the six technologies between the sub-locations was statistically insignificant ( $U = 3196.500$ ,  $N = 181$ ,  $d.f = 1$ ,  $P > 0.05$ ). However, kruskal Wallis test indicated significant difference within adoption levels in sub-location [(Chepareria  $\chi^2 = 312.132$ ,  $d.f = 5$ ,  $N = 90$ ,  $P = .0000$ ), (Lelan  $\chi^2 = 145.674$ ,  $d.f = 5$ ,  $N = 91$ ,  $P = .0000$ )]. At the adopters' level, boundary planting had a significantly higher number of households as compared to any other technology. In this regard, extension officers need to organize for training to create awareness and empower farmers on least prevalent and non-adopted technologies.