Prunus africana Hook F, *Olea capensis* Wright and *Markhamia lutea* Benth are some of the indigenous tree species growing in Kakamega forest. These species are of great economic importance to the communities living around the forest. However, Kakamega Forest soils on which these species grow are acrisols of low fertility. They are also acidic with a pH value of less than 5.5. Acidic soils are known to have low levels of phosphorus and potassium which are important in improving the availability of microelements. Their deficiency can lead to deficiency of minerals such as iron, manganese, zinc and copper in the soil. Several studies have revealed that soil amendment can improve soil structure, aeration, water retention and nutrient availability. Previous studies have shown that about 80 % of the farms around Kakamega are deficient in phosphorus, nitrogen and potassium. However, limited information is available on the effect of this nutrient deficiency on seedlings of indigenous tree species in Kakamega forest. The aim of this study was to assess the response of the selected tree seedlings to soil amendments with commonly limiting nutrients. Seedlings of the three species were grown individually in tubes containing soil fertilised with nitrogen, phosphorus, potassium and combinations of the three fertilizers. Forest soil, farm soil and a mixture of the two soil types were used for comparison purposes. Nitrogen and phosphorus were found to be co- limiting nutrients to the growth of *Prunus africana* seedlings. Nitrogen, phosphorus and potassium were all found to be limiting for *Markhamia lutea* seedlings, while potassium was found to be limiting for *Olea capensis* seedlings. To determine the effect of intraspecific competition on seedlings growth, three seedlings of each species were grown together in the same tube. To assess the effect of interspecific competition, one seedling of each species were grown in combination in each tube. The seedlings grown individually were used as the control. *Prunus africana* and *Markhamia lutea* seedlings grown in absence of competition invested more in mean height and leaves compared to the competing seedling while none competing *Olea capensis* seedlings invested more on mean height and mean diameter compared to the competing seedlings. Experimental studies conducted in shade houses and in the field have demonstrated that differences in light availability differentially affect seedlings growth and mortality of tree species in wet tropical forests. In Kakamega forest, the seedlings of *Prunus africana* have recorded unusually high mortality rate of 3.9%. Despite the important role of light in seedlings survival, its effect on seedlings survival in Kakamega forest has not been explored. The findings of this study reveal that seedlings grown in high light regime had larger mean height, mean diameter, mean number of leaves and mean leaf area compared with
the seedlings grown in low light regimes.