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**The Effects of Human Encroachment on Forest Cover, Structure And
Species Diversity in Chesa Forest Reserve**

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A dissertation submitted in partial fulfilment of the requirements of a Master of Science in Ecotourism and Biodiversity Conservation

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Supervisor: Dr. D. Mlambo

Date of submission: 10 July 2017

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ABSTRACT

Chesa forestland is a demarcated state forest but threatened with deforestation and forest degradation due to illegal forest settlers. The study was conducted to investigate the effects of illegal settlers on forest cover change and species diversity. The study involved assessing the effects of village site and distance from the village boundary and their interaction on tree diameter, sapling, seedling, tree height and species diversity. Three transects per village were used for the enumeration and ninety plots of 20m x 20 m were established to measure tree parameters with each plot having a 5m x 5m subplot nested inside to measure saplings and seedlings. Socio economic information was obtained through a questionnaire to assess the perceptions and attitudes of forest dwellers towards forest encroachment and conservation. Data was analysed by subjecting it to general linear model (GLM) and one way ANOVA using the SPSS package version 19. The Tukey's test was used for post hoc analysis to further locate significant difference in study parameters. The Sorensen's similarity coefficient was used to test if there were differences in tree species likely to be preferred by communities for their livelihood. The results revealed that the village site did not have a significant effect on tree parameters. However distance from the village boundary had an effect on tree density, sapling density and sapling diversity. The major difference was the high sapling density and diversity where the forest was subjected to annual fires which indicated the presence of fire dependent species and where there were different forest cover types, an indication that communities were not contributing to forest degradation beyond the village boundary. However the results showed that cultivation and increase in population were major contributors to forest cover change in the portions of the forest occupied by settlers. Another major driver for settling inside the forest was abundant grazing land and a weak law enforcement by forest authorities. The results also revealed that the perception of communities was that it was legal to stay on forest land since previously a few were allowed to pay annual residence levies. The study concluded that while settlers created potential ecological problems for Chesa forest, the issue of illegal settlers was complex to address as it was difficult to remove the settlers in the absence of political will to support the forest policy implementation. The study therefore proposes an interim short term solution that would establish an improved status quo of co management involving agreed informal working boundaries beyond which community settlements should not be allowed and where communities are allowed to contribute to forest upkeep. The study further proposes a long term solution where there could be a land swap that would give Forestry Commission another area of equal size and communities left to stay at their current location given that eviction of people is both a political issue as well as a human right issue that is also emphasised by the constitution of Zimbabwe.

Key words: Demarcated forestland, illegal settlers, forest based land reform policy, forest degradation, co management.