Evaluating the Use of the *'Savannah Hypothesis'* among Kenyan Workers and

Japanese Students

Andrew Oduor Muruka

A Thesis submitted in partial fulfillment for the Degree of Master of Science in

Occupational Safety and Health in the Jomo Kenyatta University of Agriculture and

Technology

2012

ABSTRACT

The objective of this study was to evaluate the use of   Savannah Hypothesis to identify the most preferred visually attractive tree species in a form/context that would confer maximum comfort in workplaces and determine any feelings associated with trees at the workplace. A cross sectional cross national study, two-stage cluster sampling design involving 890 randomly selected Kenyan workers and Japanese students participated. Participants shared their feelings on trees in the workplace and rated the workplace conditions with respect to heat, dust, darkness and noise and attractiveness of 5 tree silhouettes and 5 form/context using paired comparison method with a 5-point rating scale. To determine preferences, the average score for each tree and for every form/context was calculated and the resulting data statistically analysed using repeated measures analysis of variance (ANOVA). Post Hoc multiple comparisons' analysis was conducted using Student-Newman-Keuls (comparisons of means only) and the Tukey Method (comparison of ratios). This was because potted plants were rated significantly higher than all other form types, effectively laying credence to the Savannah Hypothesis. Results showed that workplaces in Kenya were dusty (69.6%), with poor thermal conditions (73.3%), poor lighting (52.6%) and very noisy (3.4%) and that noise was cause for worry in 44.6% of the respondents. The repeated measures ANOVA revealed that there was significant main effect of tree shapes   ($F = 81.796$, $p < 0.05$). Acacia and Mango were in the same sub-group (this means that there were no significant differences between any pairs of them) followed by Palm (2nd sub-group, and significantly higher than Baobab which fell singly in the third sub-group. Euphorbia was the least preferred among the 5 tree species studied. There was a strong and consistent preference for

Acacia tortilis (Acacia), *Mangifera indica* (Mango) and *Cocos nucifera* (Palm) across most respondent categories studied. The three were also rated highly even when the differences were not significant. So, *Acacia tortilis* (Acacia), *Mangifera indica* (Mango) and *Cocos nucifera* (Palm) were considered the most attractive species for maximum workplace comfort. On the hand , potted plants were rated higher than all the 5 forms studied. These findings suggest that as a way of bonding and connecting with nature, there is no substitute for the 'real' thing. Further study, involving larger samples is however recommended to confirm these findings. It is also recommended that nature conservation efforts should consider such preferences to ensure active participation by citizens and workers, unconsciously driven by knowledge of perceived benefits.