Title: Keberkesanan Pokok Dalam Mengawal Bunyi Bising

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Abstract :

The urban environment is always exposed to problems of pollution like noise, dust, stench, garbage, waste water and so on. The problems of noise pollution in the cities are always related to the increase of traffic, commercial centres, high-density residential areas and others. Noise emitted by traffic has gained much attention from the authorities and the researcher alike because most problems of noise pollution in urban areas have its source from urban traffic. Towards reducing the noise problems, apart from adopting the "reducing-at-source" approach, planners can opt for the "non-vehicle based control" approach. This involves the use of sound screening and tree planting as well as through the landuse planning approach. The aim of this study is to look into tree planting (urban forestation) as an approach in reducing noise pollution. Conceptually, urban forestation should seek to exploit the functions and use of trees in the urban environment. The capabilities and functions of trees have to be considered in order to optimise its use in the cities; it should not be confined to only aesthetics or shading, but also to controlling environmental pollution. The use of trees can be optirnised taking into consideration the natural characteristics of various tree species. In line with that, the goal of this research is to study the effectiveness of tree planting in improving environmental quality, particularly in reducing noise pollution. Local tree species that are capable of controlling noise pollution based on the breadth of leaves, leaves-overlaps, foliage size, form of branches, height of trees, shape of trees and distance between plantings are identified. Field studies have been carried out in Singapore and Johor Bahru where III samples from 18 different species have been collected. The studies find that the variables of "leaves-overlaps" and "leaves-density" are positively correlated with the ability to insulate noise whereas the "distance between trees" variable is negatively correlated with the noise insulation ability. For sources of traffic noise that are lower than 3 feets in height, the "height of trees" variable is not significant in insulating noise. Trees of moderate height (3 feets) such as shrubs can provide a satisfactory insulating effect. The findings also show that variables like ""foliage size" and "foliage shape" are not related with the ability to insulate noise. This study had limitations in terms of the number of independent variables, which can be considered in the noise insulation ability model. The study ignored factors such as variation in height and categories of trees, width of green belt, and confined only to tree species common to the study area. Therefore, it is recommended that further studies should include these factors.