

Study of Kampung Hijau as a green urban-village in the urban community environment in Indonesia. Case study: Surabaya City, Indonesia

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Abstract

Increasing in number of populations with the persistent space in city caused the increasing number of dense settlements in urban area. In the case of big cities in Indonesia, this dense settlement will be inhabited by low-income community with various background based on different culture. This area will also tend to be unhealthy place for living. This condition will make the community more stress and increasing risk of depression. One of the solutions to make the more livable high-density cities could be achieved by draw nature closer to the people. This effort could be done by providing the green spaces. Green spaces also could make neighborhoods healthier and more esthetically attractive. In the current situation in Indonesia there is a trend and the existence of Kampung Hijau as one form of green spaces in the urban dense settlement. The objective of this study is to analyze plant biodiversity and home garden structure in Kampung Hijau. The data for this research was collected by field survey on 193 home garden in 5 selected Kampung Hijau in Surabaya City, Indonesia. Subsequently, the data underwent analysis using three different types of plant diversity indices. The first set of indices pertained to species evenness, encompassing the Shannon Wiener Diversity Index and the Pielou Index. The second set focused on species heterogeneity, utilizing Simpson's Index. The third set involved species richness, which encompassed the Menhinick Index and the Margalef Index. Then the plant diversity indices was classified to understand the plant diversity status in each Kampung Hijau. The data was also analyzed by using R-based analysis called as iNEXT to compare the plant diversity among the Kampung Hijau based on the interpolation and extrapolation of species diversity. Based on the data collected, a total of 12.162 plant abundance were found, consisting of 94 plant families and 454 unique species. There are 71 species that classified as native species, 378 species are introduced species, and 5 hybrid species. According to the study, Kampung Hijau was discovered to provided spaces for the plant biodiversity. Based on the classification of diversity indices, generally Kampung Hijau in Surabaya could be categorized as high degree of plant species diversity. However, it predominantly consisted of introduced species, highlighting the need for increased education and promotion regarding the utilization of local or native plants. Another discovery resulting from this study is the home garden structure in Kampung Hijau is dominated by small size home garden less than 10 sqm that mostly planted in planter and located in front garden. Besides that, each Kampung Hijau have their unique characteristic and pattern based on the settlement and home garden structure.