

A Comparative Study of Species Diversity and Composition of Homegardens in Matara District: A Case Study from Hakmana and Akuressa

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Tropical homegardens are characterized by a diverse mixture of perennial and annual plant species arranged in a complex vertical and horizontal structure in which trees play a dominant role. They have multiple functions, especially in rural areas in Sri Lanka. Homegarden systems can be considered as one of the best ways to fulfill food and nutrition requirements of the increasing population. With increasing pressure with land fragmentation, and food and nutrition requirements of family, it is necessary to identify potential measures for improvement of home gardens to reach increasing demands. The objectives of this study were to assess the home garden systems in Akuressa and Hakmana Divisional Secretariat (DS) of Matara district which belong to wet and intermediate zones respectively, for their species composition and diversity. For the study, 60 homegardens were selected randomly as 30 homegardens per each DS division. Eighty-one different crop species were identified in the homegardens. Tea was the most dominant crop species found in Akuressa. Coconut, Arecanut, Mango, Jack and Bread fruit were the other most abundant crop species found in both DS divisions. Higher number of timber trees was found in Hakmana (13 trees/home garden). Higher number of fruit trees (20 trees/home garden), export agricultural crops (23 trees/home garden) and other cash crops were found in Akuressa. Shannon Wiener index was used to compare the diversity, which showed no differences between Hakmana and Akuressa for Timber trees ($P=0.71$), Fruit trees ($P=0.65$) and Export agricultural crops ($P=0.56$). However, it showed a significant difference for other cash crops ($P<0.0001$). This was mainly due to the mono crop of tea found abundantly in Akuressa which reduced the Shannon Wiener index values.

Key words: Akuressa, Comparison, Hakmana, Home Garden, Species diversity

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