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Agro-biological and Socio-economical Diversity of Homegardens in Fereydan Region of Esfahan, Iran

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Abstract

Homegardens are microsystems within wider agroecosystems that include numerous levels of diversity, including cultural and agricultural diversity. Little is known about the species diversity and management systems of Iranian homegardens. The objectives of this study were therefore to inspect management system of homegardens as well as to develop an inventory on composition of agricultural species in homegardens of Fereydan region of Esfahan, Iran. Direct observation and semi-structured interviews were employed to collect primary data in 2008. Altogether 96 homegardens were surveyed in four different districts. Shannon-Wiener index was engaged to determine species richness of districts. From that, evenness was calculated to estimate the homogeneous distribution of species in the homegardens. The Sørensen coefficient of similarity was employed to calculate the similarity of species composition between districts. All in all 47 plant species were identified which were classified based on their preferred uses of households. Fruits were showed highest species diversity within homegardens followed by vegetables and medicinal species. The evenness of total species distribution was similar in all restricts of case study. The highest similarity was found for vegetables (91 %) followed by fruits (83 %) and medicinal plants (76 %). The average number of species richness varied from 4 to 18 in different homegardens. According to species groups, vegetables were the most homogeneously distributed species followed by fruits and medicinal plants. Average size of homegardens's area was varied from 800 m² to 2400 m² in different districts. Most of products were used by family members and only partially (7 %) were sold in local markets. The total income gained from homegardens was 5–13 % of total income of family and women endeavour 2.7 times more than men in homegarden's routine activities. Results of study is confirmed the impact of socioeconomic characters of homegardeners on agrobiodiversity of homegardens in the study area.

Keywords: Agrobiodiversity, agroecology, homegardens, plant genetic resources