

# Assessment of the contribution of home gardens to plant diversity conservation in Thies region, Senegal

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## Abstract

Home gardens are reservoirs of biological diversity. This study assessed plant diversity conservation in home gardens of Thies region (Senegal) with the aim of documenting species composition and diversity in the home gardens. A sample of 30 home gardens was selected from the three main departments of the region and was used to collect plant species data. Data were collected from home gardens which were selected based on recommendations from the village leaders. Techniques used were plant inventory, participatory observations and individual interviews. Species classification and nomenclature were based on Angiosperm Phylogeny Group IV botanical classification system, Senegal analytical flora and the world plant list. Microsoft Excel was used for some calculations, tabulation and drawing graphs. Comparison of effect between different variables was analysed in analytical software R using simple linear regression, and plant diversity was calculated using the Shannon diversity index. A total of 96 plant species belonging to 86 genera, and 43 families were identified. Out of these, 34 were trees, 33 were shrubs, and 29 were herbs. 95 were angiosperms with 79 dicotyledonous and 16 monocotyledonous, and only one (1) was a gymnosperm. Species from Fabaceae family were the highest in number (9 species) whereas Citrus limon was the most frequent (80%) species in the home gardens. The results of the Shannon index indicate that there is high species diversity in the home gardens of Thies region ( $H1=3.9365$ ) with moderate equitability ( $E=0.5968$ ). The gardeners were 73% men and 27% women. At department level, 66 species (38 families) were recorded in Mbour, 54 species (33 families) in Tivaoune and 50 species (26 families) in Thies department. The study indicates that home gardens are agriculture systems ecologically important for plant diversity conservation, they have a higher potential for ex-situ conservation of plants in the agro ecosystem.

**Keywords:** Ex situ conservation, Plant species diversity, Home garden

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