



PLANT DIVERSITY, STRUCTURE AND USES OF THE PLANTS IN HOME GARDEN OF JHARKHAND, INDIA

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ABSTRACT: Present study documents the plant diversity, structure and uses of plants of 100 home gardens in Gumla district of Jharkhand, India. A total of 116 species representing 50 families and 102 genera were documented. Dominating family recorded in the gardens was Fabaceae with 20 species. The plant species in home garden were classified as four strata in which the first strata consist of annuals and herbaceous plants (vegetables, medicinal and ornamental). Out of the total documented species, leaves of the 44 species were used followed by fruits (31 species), flowers (25 species) and least one species each for bulb, culm, bark, pods and stem. Majority of the plant species were used as vegetables (51 species) followed by traditional medicines (30 species) and least with two species each for house construction, furniture and agricultural implements. This study presented the baseline data about plant diversity in the home gardens, uses of plants and arrangement of the plants in the home gardens.

Keywords: Diversity, home garden, family, strata, Jharkhand

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Home-gardens are a part of agriculture and food production system in tropical countries as a remedy to alleviate hunger and malnutrition (Johnson *et al.*, 2000). These man-made gardens provide multiple goods to satisfy social, cultural and economic needs of the owners such as food, medicines, ornamental and spiritual wellbeing, fodder, fuel wood and products that generate monetary income (Caballero, 1992) and act as a bridge between biological and social components conserving species and genetic diversity (Sthapit *et al.*, 2004; Perrault-Archambault and Coomes, 2008). The garden reflects the wisdom of traditional culture and ecological knowledge that have evolved over the years. Such valuable traditional ecological knowledge systems are based on strong socio-cultural and traditional beliefs confounded by the economic status of the people (Okigbo, 1990). This study was undertaken at Gumla district of Jharkhand state to understand the rural community's sensitivity about how home gardens function and what are the different benefits they provide to the users, through analyzing both socio economic and diversity of plants in the home gardens.

MATERIAL AND METHODS

Study Area

The present study was conducted in Gumla district of Jharkhand state of India during May, 2014 to May, 2016.

The district with 5, 327 km² areas is located between latitudes 23.19° N and longitudes 84.52° E and having a total population of 10, 25, 656. Out of the total area 62.24% is under agriculture, 25.61 % under forest cover and rest under waste and non cultivable land.

Methodology

Data was collected from three different areas of Gumla district (Basia, Paalkot and Gumla) in which 100 respondents (home garden owners) were randomly selected for survey from each site through providing both open and close ended questionnaire, direct observation and by a face to face interview. The data thus collected was analysed for socio economic status of the owners, plant diversity and traditional utilization of the plants maintained in the home gardens.

Socio economic status

Structured questionnaires were used to document respondent's profile such as person's occupation, education, family size, no. of domestic animals, agriculture land (ha), area under home garden, agriculture crops and horticulture crops.

Plant inventory survey and utilization

The plant inventory survey was performed by using an open ended format which included common name and botanical name of plants, parts used and their uses. The survey was carried out with participatory observations, plants identification with local names and necessary