



## Species Diversity, Population Structure and Regeneration of Tree Species in Kuldiha Wildlife Sanctuary, Odisha, India

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**Abstract:** Phyto-sociological analysis of vegetation in Kuldiha Wildlife Sanctuary revealed presence of 43 numbers of tree species (37 genera and 23 families), 12 numbers of shrub species (12 genera and 11 families) and 17 numbers of climbers (14 genera and 10 families). *Shorea robusta*, *Syzygium cumini*, *Terminalia tomentosa*, *Schleichera oleosa* and *Madhuca indica* were the predominant tree species having important value index 48.70, 19.13, 17.50, 15.84 and 14.46 respectively. The forest stand density was 488 trees ha<sup>-1</sup> with basal area 36.17 m<sup>2</sup> ha<sup>-1</sup>. The Shannon-Weiner index of diversity for trees, shrubs and climbers was 4.81, 1.41 and 1.15, respectively. The Simpson Index of dominance, Margalef index for species richness and Pielou index for species evenness were also calculated. Many species were found rare and clumped pattern of dispersion was predominant among trees. The population structure of tree species showed reverse J-shaped pattern. Sapling and seedling density was 350 numbers ha<sup>-1</sup> and 50750 numbers ha<sup>-1</sup> respectively. Overall regeneration status of the forests was fair. The study will be helpful in understanding changes in the plant community and there by developing location specific strategies for conservation of valuable rare plants of the sanctuary as well as sustainable utilization of biodiversity in future.

**Keywords:** Population structure, Tree diversity, Important value Index, Floristic composition

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