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**Genetic Diversity of *Mansonia altissima* (A. Chev.) and  
*Triplochiton scleroxylon* (K. Schum) in an Agroforest Scenario in  
Akure Forest Reserve, Nigeria**

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**Abstract**

Problems of too much pressure on land for the production of food and wood for the increasing population have made it mandatory to look into various ways of maximising the uses of forest land in different parts of the world. Under this high demand for land, the system of shifting cultivation which has been practised from time immemorial in Nigeria can no longer support the needs of farmers. As a result of this, agroforestry practices such as Taungya and “on-farm tree” approaches have received increased attention in recent times. However, genetic inventories of the tree component of these practices are missing. In the present study, genetic diversity of two important Nigerian timber species namely: *Mansonia altissima* and *Triplochiton scleroxylon*, growing in an agroforest land in Nigeria were assessed. For this purpose, fresh leaf samples of *Mansonia altissima* were collected from a Taungya Farm while *Triplochiton scleroxylon* leaves were collected from a farmland with scattered “on-farm trees”. To serve as control, fresh leaf samples of the two tree species were also collected from an old Permanent Sample Plot (PSP) which represents a primary forest. The genetic diversity was assessed using Amplified Fragment Length Polymorphism (AFLP) markers. For *Mansonia altissima*, out of a total of 108 scorable bands, 40 were polymorphic (37.0%). Its gene diversity which was very low in both Taungya farm and Primary Forest were 0.0418 and 0.0305 respectively. In case of *Triplochiton scleroxylon*, out of the total of 134 scorable bands, 113 were polymorphic (86%). Its gene diversity in the Primary Forest was 0.2192 while in the farmland with “on-farm trees”, its gene diversity was 0.2175. These results reveal that trees on agroforest lands show similar levels of genetic diversity as those in the primary forests. In essence, agroforest lands could be reservoir of valuable genetic resources.

**Keywords:** AFLP, agroforestry, genetic diversity, *Mansonia altissima*, on-farm trees, taungya, *Triplochiton scleroxylon*