

Usarat Tianchai 2013: Existing Status and Management Guidelines of *Dipterocarpus alatus* Roxb. *Ex Situ* Gene Conservation of the Royal Forest Department. Master of Science (Forest Resource and Environmental Administration), Major Field: Forest Resource and Environmental Administration, Faculty of Forestry. Thesis Advisor: Assistant Professor Sapit Diloksumpun, Ph.D. 161 pages.

This study was conducted in *Dipterocarpus alatus* Roxb. *ex situ* gene conservation plots of the Royal Forest Department (RFD) established in 13 provinces. The objectives of the study were to analyze existing status of *D. alatus ex situ* gene conservation plots and propose their management guidelines accordingly. The study was undertaken during October 2011 to December 2012. General information of 36 *D. alatus ex situ* gene conservation plots was gathered, their growth, tree height and diameter at breast height (DBH) measurements were undertaken and SWOT Analysis was also applied to evaluate their existing status.

It was revealed that the area and tree age of the *ex situ* gene conservation plots varied largely, ranging from the area of 3-200 rai (0.48-32 ha) and 12-51 years of age, respectively. Most of the plots were applied with 4x4 and 4x2 m spacing. The *ex situ* gene conservation plots observed at the Surat Thani Silvicultural Research Station had the highest mean annual increment (MAI) in tree height (1.64 m/yr) and MAI in DBH found at the Chiang Rai Silvicultural Research Station was greatest (1.67 cm/yr). The SWOT analysis indicated that most of the *ex situ* gene conservation plots were regularly maintained and had sufficient potential for genetic and plus tree selection. They also serve as learning resources and provide minor forest products to local communities. Existing national policies and action plans for *D. alatus* gene conservation are in place but not successfully implemented. Moreover, some forestry laws and regulations do not help promoting commercial forest plantation. Therefore, seven integrated strategies were proposed in this study as management guidelines of the *D. alatus ex situ* gene conservation appropriate for its existing status analyzed.

---

Student's signature

---

Thesis Advisor's signature