ABSTRACT

NURUL HIDAYAH. Survivorship and Growth Rate of Rasamala (*Altingia excelsa* Noronha), Puspa (*Schima wallichii* (DC.) Korth.) and Jamuju (*Dacrycarpus imbricatus* (Blume) de Laub.) on Degraded Land in the Upstream of Cisadane Watershed. Under supervision of IBNUL QAYIM and DIDIK WIDYATMOKO.

Changes in land use often threaten biodiversity. A slow primary succession can, however, be accelerated by conducting a restoration program. The aims of this study were to i) obtain data of survivorship and growth rate and ii) assess the influences of environmental factors on the growth of Rasamala (*Altingia excelsa*), Puspa (*Schima wallichii*), and Jamuju (*Dacrycarpus imbricatus*) on a degraded land in the upstream of Cisadane watershed. Observations were carried out two times: 6 and 12 months after planting. Survivorship percentages at different slopes were obtained by dividing the amount of living species during the period of the observation with the total amount of plants planted at the beginning of the observation. A PCA biplot analysis was used to assess the interaction between biotic and abiotic factors influencing the survivorship. Growth rate was done by measuring the height, diameter, and canopy spread of individual plants. Assessments of biotic and abiotic environment that influence the growth rates were also conducted. The results showed that the survivorship percentages of Rasamala, Puspa, and Jamuju were 87,18%, 82,05%, and 77,14%, respectively. On the 40° slopes, the survivorship of Rasamala was 93,75%, while those of Puspa and Jamuju were 84,61% and 66,67% respectively. On the 60° slopes, the survivorship was 82,25% for Rasamala, 81,81% and 64,70% for Puspa and Jamuju respectively. Higher growth rate was found in Jamuju, followed by Puspa and Rasamala. Environmental factors (both biotic and abiotic) significantly influenced the three species survivorship. Plant height, diameter and canopy area had significant correlations with plant growth rates.

Key words: survivorship, growth rate, environmental factors, degraded land.