

Evaluation of revegetation practices in post-mined areas of Indonesia

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Abstrak

In compliance with government regulations, mining companies in Indonesia are obliged to reclaim and return a post-mined area into its pre-mining condition. Revegetation, as part of reclamation activity, performs a significant role in the rehabilitation of degraded post-mined areas to restore their productive land uses. Hence, this study aimed to assess tree growth on the reclamation sites across four mining companies in East Kalimantan, South Sulawesi, South Sumatra, and West Java in Indonesia and to evaluate whether the companies have met the legal requirements set for site revegetation. The success parameters were based on the applicable regulations of the Ministry of Environment and Forestry (MOEF) P.60/Menhut-II/2009 and tree growth parameters (stem diameter, total height and basal area). The parameters set by MOEF included revegetation realization, survival rate, tree density, tree health, species composition and rotation length. The four mining companies applied the two-phase planting method that included the planting of *Enterolobium cyclocarpum* for the first phase; and in the second phase, the slow growing native species, such as *Intsia palembanica*, *Sycygium polyanthum*, *Shorea* spp. and *Elmerrillia tsiampaca*. The tree growth parameters showed different performances over species and reclaimed sites. An extremely high growth of stem basal area of 57.6 m²/ha in 11 years, was recorded in the *E. cyclocarpum* stand of the Mining Company in South Sulawesi. All four mining companies strived to comply with the regulation with scores of revegetation success ranging from 15 to 25 out of 25 possible points. However, these favorable results may not be representative of all the mining companies, as the ones assessed were only those voluntarily supporting this research. Moreover, each of the four companies made some distinct efforts in implementing post-mining revegetation, such as by establishing plots of *Melaleuca cajuputi* trees producing cajuput oil and polycultures of native species.