

COMMUNITY CHARACTERS OF HERBACEOUS SPECIES IN PLANTATION SITES OF COAL MINE

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Abstract: Mining has an environmental and ecological impact at each stage and level of its operation. These include deforestation, environmental pollution and ecological imbalance. In order to assess the community characters of herbaceous species the study was carried out to evaluate the structure, composition and diversity indices in plantation sites of mined out areas. A total of 43 herb species with 15 families were recorded in different plantation sites. Eucalyptus plantation representing a total of 26 species with 13 families, Teak plantation (31 species with 13 families), whereas 25 species with 12 families were recorded under the mixed (Cassia+Mangium) plantation. Total density of herb across the sites ranged from 412000-708000 individuals ha⁻¹, being least at mixed plantation and highest under Eucalyptus plantation, respectively. The diversity indices of the herb layer showed that the value of Shannon index in different plantation sites varied from 3.96-4.62, equitability (1.22-1.36), species richness (1.85-2.26), Simpsons index (0.05-0.10) and Beta diversity (1.39-1.72). Due to improper planning and negligence of regulations, mining activities results in an appreciable damage, degradation and deterioration of the environment and ecological damage to water, air and soil occurs. A long term strategy is needed to conserve and restore the fragile ecosystem of coal mine area.

Keywords: Coal mine, Composition, Diversity, Herb, Restore, Structure

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