INTISARI

Kegiatan penebangan menghasilkan tegakan tinggal dengan berbagai tingkat perkembangan pohon. Pertumbuhan permudaan alam terdiri dari banyak spesies menunjukkan perilaku yang berbeda-beda. Pengelolaan dan pemanfaatan hutan hujan tropika secara lestari memerlukan pengetahuan dan pemahaman yang baik tentang proses regenerasi hutan, terutama pada areal bekas tebangan.

Penelitian ini bertujuan untuk mempelajari perubahan struktur, komposisi, keragaman permudaan alam pada beberapa areal bekas tebangan yang berbeda umurnya dan pada areal yang belum ditebang serta hubungan pola permudaan alam dengan beberapa faktor lingkungan. Penelitian dilakukan di Sulawesi Tenggara, dengan pendekatan "*side by side comparison*" pada areal 1, 4 dan 8 tahun setelah tebangan dan areal belum ditebang. Pengamatan dilakukan pada tingkat semai dan sapihan. Parameter vegetasi yang diamati meli puti jumlah jenis, jumlah individu setiap jenis dan diameter sapihan. Data dianalisis dengan menghitung indeks nilai penting, indeks kesamaan dan ketidaksamaan komunitas serta indeks keragaman. Pola permudaan dianalisis dengan analisis ordinasi komunitas dan pengaruh faktor lingkungan dianalisis melalui analisis korelasi sederhana.

Hasil penelitian menunjukkan bahwa terjadi proses suksesi pada areal bekas tebangan, yang ditandai dengan perubahan struktur tegakan, komposisi dan keragaman spesies. Permudaan alam pada areal bekas tebangan yang semakin tua menunjukkan nilai kesamaan yang semakin tinggi dengan permudaan alam pada areal belum ditebang. Kera gaman spesies cenderung meningkat dengan makin tuanya umur areal bekas tebangan.

Pola permudaan alam tingkat semai dan sapihan terbagi dalam tiga kelompok komunitas yang menggambarkan perkembangan proses suksesi, yaitu komunitas yang menggambarkan kondisi permudaan 1 tahun; 4 tahun dan sebelum tebangan serta 8 tahun setelah tebangan. Pola permudaan tingkat semai dipengaruhi oleh kelembaban udara, suhu, ketinggian tempat dan intensitas cahaya, sedang tingkat sapihan disamping dipengaruhi keempat faktor tersebut juga dipe ngaruhi oleh pH tanah.

ABSTRACT

Logging activities leave tree stand with varying stage of development. Natural regeneration wich takes place of the different species has its own characteristics. Understanding of this process in tropical rain forest, particularly the one having been exploited, is an important factor for the management and utilization of sustainable tropical rain forest.

This study has the objectives of finding out the change in structure, composition, and diversity of the species in such forest area with varying passing years, as well as the unexploited one, and secondly trying to relate the changes to the prevailing environmental factors. The study takes place in South East Sulawesi using side by side comparison in the area where logging has been done one, four, and eight years ago, as well as the unexploited one. Records on total species and total plant number of each species were made at seedling and sapling stage. Measurement on stem diameter was also made at the sapling stage. Analysis was done by computing important value index of the species, similarity and dissimilarity index of plant community, and diversity index of the area. Regeneration pattern was analyzed using ordination analysis of plant community, and the possible effect of prevailing environmental factors was assessed through simple correlation coeficient.

The results indicate that plant regeneration in an area where logging had taken place was characterized by change in tree stand structure, composition, and species diversity. The outcome of natural regeneration showed higher similarity to the one which has been exploited yet with the passing years. Species diversity tended to be higher as well.

Natural regeneration pattern at seedling and sapling stage can be classified into three communities, charac terizing the regeneration process. They are cluster characterizing one year regeneration, cluster of four years regeneration and the unexploited one, and cluster of eight years regeneration. Regeneration at seedling stage was influenced by relative humidity, temperature, altitude, and light intensity. On the other hand, regeneration at the sapling stage, aside from those four environmental factors, soil pH has a considerable role too.