

ABSTRACT

Sago (*Metroxylon sago* Rottb) has a very important role in the social, economic and cultural systems of people in Papua. The aims of this study were to identify the spatial distribution of sago habitat in the Sentani watershed, to analyze the structure and composition of the sago plant and to measure environmental factors affecting sago habitat, and to measure sago production from logging trees in natural forests. The method used is identification of the spatial distribution of sago habitat using Landsat 8 imagery and Quickbird imagery to produce a sago land suitability map. Structure and composition is measured using circular plots or circular plots with the area of the circle following the sago groves. Sago production is obtained from sago harvesting to measure sago flour production. The results showed that the habitat of sago (*Metroxylon sago* Rottb) in the Sentani watershed has an area of 7,842.76 ha. Sago habitat is spread across the districts of Ebungfau, Kemtuk, Sentani, West Sentani, East Sentani and Waibu. The type of *Metroxylon sago* Rottb at the study site was divided into 13 local varieties including *ebhesum*, *folo*, *hobholo*, *manno*, *phane*, *phara*, *rondo*, *ruruna*, *osukhulu*, *wani*, *yakhalobe*, *yakhe* and *yebha*. The distribution of varieties based on the place of growth obtained 10 varieties of dry habitat with a Simpson diversity index (Ds) value of 0.85 and evenness (Es) of 0.94. Temporary habitat of 13 varieties with a Simpson diversity index (Ds) value of 0.89. and evenness (Es) 0.97. The flooded habitat has 8 varieties with a Simpson diversity index (Ds) value of 0.86 and evenness (Es) of 0.97. The results of the calculation of the Important Value Index (IVI) for all observation locations showed that the varieties *phara* and *yebha* had the highest IVI, while the lowest IVI was the varieties *wani*, *phane*, *yakhe*, *yakhalobe*, *hobholo* and *osukhulu*. The highest production of sago starch (wet weight) was produced from the *yebha* variety (313.20 kg), followed by *phara* (292.55 kg) and *folo* (281.12 kg). Meanwhile, the lowest sago starch production was produced from the *manno* variety (54.39 kg). This difference is thought to be due to differences in growing locations and different environments, the highest was obtained by *phara*, *osukhulu* and *ruruna* with total biomass of 836.21 kg, 829.9 kg and 826.37 kg respectively.

INTISARI

Sagu (*Metroxylon sagu* Rottb) memiliki peranan penting dalam sistem sosial, ekonomi, dan budaya masyarakat di Papua. Tujuan dari penelitian ini ada tiga yaitu mengidentifikasi sebaran spasial habitat sagu di DAS Sentani, menganalisis struktur dan komposisi tumbuhan sagu serta mengukur faktor lingkungan yang mempengaruhi habitat sagu, dan mengukur produksi sagu dari pohon masak tebang di hutan alam. Metode yang digunakan dalam penelitian ini meliputi identifikasi sebaran spasial habitat sagu menggunakan citra landsat 8 dan citra *quickbird* untuk menghasilkan peta kesesuaian lahan sagu, struktur dan komposisi diukur menggunakan plot ukur lingkaran atau *circular plot* dengan luas lingkaran mengikuti rumpun sagu dan Produksi sagu diperoleh dari penebangan pohon sagu yang telah memenuhi kriteria masak tebang untuk mengetahui produksi tepung sagu. Hasil penelitian menunjukkan bahwa habitat sagu (*Metroxylon sagu* Rottb) di DAS Sentani memiliki luas sebesar 7.842,76 ha. Habitat sagu yang tersebar di Distrik Ebungfau, Kemtuk, Sentani, Sentani Barat, Sentani Timur, dan Waibu. Jenis *Metroxylon sagu* Rottb di lokasi penelitian terbagi dalam 13 varietas lokal meliputi *ebhesum*, *folo*, *hobholo*, *manno*, *phane*, *phara*, *rondo*, *ruruna*, *osukhulu*, *wani*, *yakhalobe*, *yakhe* dan *yebha*. Sebaran varietas berdasarkan tempat tumbuh diperoleh habitat kering sebanyak 10 varietas dengan nilai indeks keragaman simpson (Ds) 0,85 dan kemerataan (Es) 0,94. Habitat temporer sebanyak 13 varietas dengan nilai indeks keragaman simpson (Ds) 0,89. dan kemerataan (Es) 0,97. Habitat tergenang memiliki 8 varietas dengan nilai indeks keragaman simpson (Ds) 0,86 dan kemerataan (Es) 0,97. Hasil penghitungan Indeks Nilai Penting (INP) untuk semua lokasi pengamatan diketahui varietas *phara* dan *yebha* mempunyai INP tertinggi, sedangkan INP terendah diperoleh varietas *wani*, *phane*, *yakhe*, *yakhalobe*, *hobholo* dan *osukhulu*. Produksi pati sagu (berat basah) tertinggi dihasilkan dari varietas *yebha* (313,20 kg) kemudian disusul oleh *phara* (292,55 kg) dan *folo* (281,12 kg). Sedangkan produksi pati sagu terendah dihasilkan dari varietas *manno* (54,39 kg). Total biomassa tertinggi dihasilkan oleh varietas *phara* 836,21 kg, *osukhulu* 829,9 kg dan *ruruna* 826,37 kg.

Kata Kunci: DAS Sentani, Habitat sagu, *Metroxylon sagu* Rottb, Sebaran spasial, Pati sagu