

ABSTRACT

Mangrove ecosystems are able to provide services and environmental carrying capacity so that they have very high economic value. This causes high exploitation to cause environmental damage. The current national mangrove area is 3.36 million ha. Changes in land use and land use as well as degradation are the main causes of the decline in mangrove area. One of the efforts made to accelerate the recovery of damaged ecosystems is rehabilitation. In 2020 the Ministry of Environment and Forestry has carried out mangrove rehabilitation through The Labor Intensive National Economic Recovery Program (PEN) Mangrove Planting with a planting area of 18,709 ha and a workforce of 1,779,248 HOK. Pesisir Ngombo District is one of the locations for planting a 48 hectare Mangrove Work-Intensive PEN. The mangrove area of 64.24 ha is spread along the banks of the Slope 2 River. The mangrove habitat is under pressure due to the development of shrimp pond cultivation and agricultural land. However, efforts to plant mangroves were declared unsuccessful. This study aims to 1) identify and map existing mangroves on the coast of Ngombol District, 2) evaluate land suitability for mangrove rehabilitation efforts that have been carried out, and 3) determine optimal mangrove management on the coast of Ngombol District. The location of this research was chosen because prior to the PEN program, rehabilitation/planting of mangroves had been carried out but they always failed, so it is necessary to know the causal factors. Field data collected included 1) identification of the latest distribution of mangroves, 2) variables of mangrove land suitability and factors causing rehabilitation failure, 3) interviews with parties related to mangrove utilization and management to determine perceptions of optimal management. Mangrove mapping was carried out by visual interpretation using the 2020 PMS Pleiades Imagery. Mangrove land suitability variables such as salinity, pH, height and frequency of inundation, soil texture and slope slope were obtained by direct measurements in the field. Landform and land use variables were obtained from mapping results using the 2020 PMS Pleiades Image, tidal data obtained from observations at the Cilacap tidal station. The land unit used as the unit of analysis was obtained from the overlapping of the Landform Map and the Land Use Map. The determination of the sample is carried out by *purposive sampling*. Mangrove land suitability analysis was carried out by scoring and weighting methods. Interviews used a questionnaire whose results were used as input in a SWOT analysis to produce a mangrove management strategy. The results of the research are 1) mangrove mapping produces an accuracy value of 90% with an area of 40.13 ha spread along the banks and bodies of the Slope 2 River, the type of natural mangrove that grows *Sonneratia alba*, *Acanthus ilicifolius* and *Golden acrostic*, 2) land suitability for mangrove S1 covering 35.74 ha (51.31%), S2 covering 19.26 ha (27.65%), S3 covering 3.72 ha (5.34%) and N covering 10.93 (15, 69%). Meanwhile, the suitability of Mangrove Labor-Intensive PEN locations is 20.91 ha (43.57%), S2 is 12.22 ha (25.46%), S3 is 1.8 ha (3.75%) and N is 12.42 ha (25.87%). The suitability of the types of plants in the research location is *Sonneratia alba*, and 3) mangrove management using the S-T strategy (*defence*), with proposed considerations a) enforcing rules and determining policies related to the use and rehabilitation of mangroves; b) rehabilitation priority; c) fostering and increasing community capacity as well as developing mangrove utilization, and d) implementing forms of mangrove management that have been carried out.

Keywords: mangroves, rehabilitation, mangrove land suitability, mangrove management, image of the Pleiades

INTISARI

Ekosistem mangrove mampu menyediakan jasa dan daya dukung lingkungan sehingga memiliki nilai ekonomis yang sangat tinggi. Hal ini menyebabkan tingginya eksploitasi hingga menyebabkan kerusakan lingkungan. Luas mangrove nasional saat ini adalah 3,36 juta ha. Perubahan peruntukan dan penggunaan lahan serta degradasi merupakan penyebab utama penurunan luas mangrove. Salah satu upaya yang dilakukan untuk mempercepat pemulihan ekosistem yang telah rusak adalah dengan rehabilitasi. Pada tahun 2020 KLHK telah melakukan rehabilitasi mangrove melalui Program Pemulihan Ekonomi Nasional (PEN) Padat Karya Penanaman Mangrove dengan penanaman seluas 18.709 ha dan tenaga kerja sebanyak 1.779.248 HOK. Pesisir Kecamatan Ngombol menjadi salah satu lokasi penanaman PEN Padat Karya Mangrove seluas 48 ha. Wilayah mangrovenya seluas 64,24 ha tersebar di sepanjang bantaran Sungai Lereng 2. Habitat mangrove mendapat tekanan akibat perkembangan budidaya tambak udang dan lahan pertanian. Namun upaya penanaman mangrove ini dinyatakan tidak berhasil. Penelitian ini bertujuan untuk 1) mengidentifikasi dan memetakan eksisting mangrove di pesisir Kecamatan Ngombol, 2) melakukan evaluasi kesesuaian lahan terhadap upaya rehabilitasi mangrove yang telah dilakukan, dan 3) menentukan pengelolaan mangrove yang optimal di pesisir Kecamatan Ngombol. Lokasi penelitian ini dipilih karena sebelum program PEN pernah dilakukan kegiatan rehabilitasi/penanaman mangrove namun selalu mengalami kegagalan, sehingga perlu diketahui faktor penyebabnya. Data lapangan yang diambil meliputi 1) identifikasi sebaran mangrove terkini, 2) variabel kesesuaian lahan mangrove dan faktor penyebab kegagalan rehabilitasi, 3) wawancara dengan para pihak yang berkaitan dengan pemanfaatan dan pengelolaan mangrove untuk mengetahui persepsi pengelolaan yang optimal. Pemetaan mangrove dilakukan dengan interpretasi visual menggunakan Citra Pleiades PMS tahun 2020. Variabel kesesuaian lahan mangrove seperti salinitas, pH, tinggi dan frekuensi genangan, tekstur tanah dan kemiringan lereng diperoleh dengan pengukuran langsung di lapangan. Variabel bentuklahan dan penggunaan lahan diperoleh dari hasil pemetaan menggunakan Citra Pleiades PMS tahun 2020, data pasang surut diperoleh dari pengamatan di stasiun pasang surut Cilacap. Satuan lahan digunakan sebagai unit analisis diperoleh dari hasil tumpang susun Peta Bentuklahan dan Peta Penggunaan Lahan. Penentuan sampel dilakukan secara *purposive sampling*. Analisis kesesuaian lahan mangrove dilakukan dengan metode skoring dan pembobotan. Wawancara menggunakan kuesioner yang hasilnya digunakan sebagai input dalam analisis SWOT untuk menghasilkan strategi pengelolaan mangrove. Hasil penelitian berupa 1) pemetaan mangrove menghasilkan nilai akurasi sebesar 90% dengan luas 40,13 ha yang tersebar di sepanjang bantaran dan badan Sungai Lereng 2, jenis mangrove alami yang tumbuh *Sonneratia alba*, *Acanthus ilicifolius* dan *Acrostichum aureum*, 2) kesesuaian lahan mangrove S1 seluas 35,74 ha (51,31%), S2 seluas 19,26 ha (27,65%), S3 seluas 3,72 ha (5,34%) dan N seluas 10,93 (15,69%). Sedangkan kesesuaian lokasi PEN Padat Karya Mangrove S1 seluas 20,91 ha (43,57%), S2 seluas 12,22 ha (25,46%), S3 seluas 1,8 Ha (3,75%) dan N seluas 12,42 ha (25,87%). Kesesuaian jenis tanaman di lokasi penelitian adalah *Sonneratia alba*, dan 3) pengelolaan mangrove menggunakan strategi S-T (*defence*), dengan usulan pertimbangan a) penegakan aturan dan penentuan kebijakan terkait pemanfaatan dan rehabilitasi mangrove; b) prioritas rehabilitasi; c) pembinaan dan peningkatan kapasitas masyarakat serta pengembangan pemanfaatan mangrove, dan d) penerapan bentuk pengelolaan mangrove yang perbah dilakukan.

Kata kunci: mangrove, rehabilitasi, kesesuaian lahan mangrove, pengelolaan mangrove, citra Pleiades