ANALISIS POTENSI KREDIT KARBON AKSI MITIGASI DAN KELAYAKAN FINANSIAL MULTIUSAHA KEHUTANAN DI AREAL PT EKOSISTEM KHATULISTIWA LESTARI, KALIMANTAN BARAT

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INTISARI

PT EKL sebagai usaha berbasis Perizinan Berusaha Pengelolaan Hutan (PBPH) yang mengelola hutan mangrove dengan status izin restorasi ekosistem (RE) dituntut untuk berkontribusi sebagai bagian dari upaya pencapaian target FOLU Net Sink Indonesia 2030 melalui aksi mitigasi untuk pengendalian perubahan iklim. Pengembangan usaha PT EKL dilakukan melalui multiusaha kehutanan atas dua kegiatan, yakni Pemanfaatan Penyerapan dan Penyimpanan (RAP-PAN) Karbon dan Pemanfaatan Hasil Hutan Bukan Kayu (HHBK). Penelitian ini bertujuan untuk mengidentifikasi bentuk aksi mitigasi yang perlu dan layak dilakukan di areal PT EKL, potensi kredit karbon selama masa proyek, dan kelayakan finansial multiusaha kehutanan.

Penelitian menggunakan pendekatan *mixed method*. Pengambilan data observasi lapangan untuk stok karbon dilakukan menggunakan *multi-stage sampling*. Data dilengkapi dengan teknik observasi dan wawancara terbuka pada informan secara *purposive*. Penilaian kelayakan aksi mitigasi di areal PT EKL dilakukan dengan kerangka metodologi eksisting (KMSAH-001) mengacu pada Kementerian Lingkungan Hidup dan Kehutanan. Biomassa tegakan mangrove lapangan ditaksir dengan menggunakan persamaan alometrik yang ada berdasarkan tiap jenis spesies. Nilai biomassa menghasilkan cadangan karbon mangrove (ton CO_2) yang digunakan untuk penentuan nilai *baseline* dalam perhitungan kredit (ton CO_2e). Analisis finansial dilakukan dengan melakukan perhitungan *Net Present Value*, *Benefit Cost Ratio*, dan *Interest Rate of Return*.

Hasil penelitian menunjukkan bahwa terdapat tiga jenis aksi mitigasi utama yang dianggap perlu dan layak untuk dilaksanakan oleh PT EKL, yaitu *Reforestasi* (Refor), *Assisted Natural Regeneration* (ANR), dan Penanaman *Agroforestry*. Data lapangan menunjukkan bahwa potensi cadangan karbon aktual di PT EKL mencapai 70,72 ton C/ha. Data digunakan dalam prediksi cadangan karbon selama masa proyek di PT EKL melalui model polinomial orde 2. Diperoleh potensi cadangan karbon aktual di PT EKL selama 30 tahun mencapai 623,5 ton C/ha, sementara estimasi potensi kredit karbon sebesar 2.119.519 ton CO_2e. Hasil analisis finansial menunjukkan nilai NPV sebesar Rp Rp276.073.473,14,-, nilai BCR sebesar 1,49, dan nilai IRR sebesar 19 %. Dengan nilai NPV yang positif, nilai BCR >1, dan nilai IRR yang lebih besar dari tingkat suku bunga yang dianalisis (11%), yang menunjukkan bahwa pengembangan multiusaha kehutanan PT EKL layak secara finansial.

Kata Kunci: Kredit Karbon, Aksi Mitigasi, Perdagangan Karbon, Multiusaha Kehutanan, Kelayakan Finansial

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ANALYSIS OF CARBON CREDIT POTENTIAL OF MITIGATION ACTIONS AND FINANCIAL VIABILITY OF FORESTRY MULTIBUSINESS IN THE AREA OF PT EKOSISTEM KHATULISTIWA LESTARI, WEST KALIMANTAN

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ABSTRACT

PT EKL, as a business entity operating under the Forest Utilization Business Licensing (PBPH) framework and managing mangrove forests with an ecosystem restoration (RE) permit, is required to contribute to Indonesia's FOLU Net Sink 2030 target through mitigation actions for climate change control. PT EKL's business development follows a multi-enterprise forestry approach involving two main activities: Carbon Absorption and Storage Utilization (RAP-PAN) and Non-Timber Forest Product (NTFP) Utilization. This study aims to identify the necessary and feasible mitigation actions within PT EKL's area, estimate the potential carbon credits over the project period, and assess the financial viability of the multi-enterprise forestry approach.

This research employs a mixed-method approach. Field data collection for carbon stock assessment was conducted using multi-stage sampling, complemented by observations and open-ended interviews with selected informants using a purposive sampling technique. The feasibility assessment of mitigation actions in PT EKL's area was carried out based on an existing methodological framework (KMSAH-001) issued by the Ministry of Environment and Forestry. Mangrove stand biomass was estimated using species-specific allometric equations. The resulting biomass values were used to determine the total carbon stock in mangroves (in tons of CO_2), forming the baseline for carbon credit calculations (in tons of CO_2e). Financial analysis was conducted using Net Present Value (NPV), Benefit-Cost Ratio (BCR), and Internal Rate of Return (IRR) calculations.

Research findings indicate that there are three main types of mitigation actions deemed necessary and feasible for implementation by PT EKL: Reforestation (Refor), Assisted Natural Regeneration (ANR), and Agroforestry Planting. Field data indicates that the actual carbon stock potential at PT EKL reaches 70.72 tons C/ha. Data were utilized to predict carbon stocks over the project duration at PT EKL using a second-order polynomial model. Carbon stock potential at PT EKL over 30 years was estimated at 623,5 tons C/ha, while the potential carbon credit was estimated at 2,119,519 tons CO_2e. Financial analysis results indicate a positive NPV of Rp276,073,473.14, a BCR of 1.49, and an IRR of 19%, which exceeds the analyzed interest rate of 11%. These outcomes conclude that the development of PT EKL's multi-business is financially viable.

Keywords: *Carbon Credit, Mitigation Actions, Carbon Trading, Multibusiness Forestry, Financial Feasibility*

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