

## Intisari

Pemilihan komoditas tanaman pertanian yang akan dikembangkan dalam suatu daerah terkadang tidak sesuai dengan kondisi tempat dan syarat tumbuh bagi tanaman. Pemilihan tanaman pertanian yang akan dikembangkan harus mengacu pada kondisi kebutuhan biofisik dan pertumbuhan tanaman. Oleh karena itu, telah dilakukan penelitian dalam tiga tahapan, yaitu: (1) Evaluasi kesesuaian lahan dan kelas kesuburan tanah untuk tanaman kelapa, cengkeh, coklat dan pala di wilayah Galela Kabupaten Halmahera Utara. Kriteria kesesuaian lahan menggunakan metode pendekatan Limitasi Sederhana dan Kriteria Sys, sedangkan penentuan kelas kesuburan tanah menggunakan klasifikasi kapabilitas kesuburan tanah versi 4. (2) Pengaruh pemberian pupuk kandang dan pupuk KCl terhadap perbaikan sifat kimia tanah dan pertumbuhan tanaman pala (*Myristica fragrans* Houtt) pada Inceptisol Galela, menggunakan Rancangan Faktorial dalam pola Rancangan Acak Kelompok (RAK), dan (3) Melakukan analisis kelayakan usahatani pala menggunakan R/C rasio sesuai dengan kelas kesesuaian lahannya. Hasil penelitian tahap I menunjukkan bahwa terdapat 14 kelas unit FCC pada wilayah Galela Kabupaten Halmahera Utara. Kelas kesuburan yang memiliki faktor pembatas paling berat yaitu kelas LLR<sup>+</sup>s<sup>-</sup>k (8%) pada subgroup Lithic Haprendolls dan LLR<sup>+++</sup>s<sup>-</sup>n (14%) pada subgroup Lithic Eutrudepts. Evaluasi kesesuaian lahan untuk tanaman kelapa, cengkeh dan pala dengan Limitasi Sederhana diperoleh 2 kelas yakni N (tidak sesuai) dan S3 (sesuai marginal), dengan Kriteria Sys juga diperoleh 2 kelas yakni kelas S3 dan S2 (cukup sesuai). Untuk tanaman coklat dengan Limitasi Sederhana diperoleh kelas N dan dengan Kriteria Sys diperoleh kelas S3. Secara umum faktor pembatas dalam budidaya tanaman perkebunan di wilayah Galela, meliputi: retensi hara, ketersediaan hara, media perakaran, erosi, drainase, dan sodisitas. Hasil penelitian tahap II menunjukkan secara tunggal pemberian pupuk kandang sapi 500 kg ha<sup>-1</sup> dan KCl 120 kg ha<sup>-1</sup> merupakan dosis yang sesuai bagi tanaman pala kebun campur. Hasil penelitian tahap III menunjukkan usaha tani pala di wilayah Galela kabupaten Halmahera Utara menguntungkan karena memiliki R/C ratio 1,8, artinya tanaman pala layak dan dapat dikembangkan pada kelas kesesuaian lahan S1, S2, dan S3.

Kata Kunci: Evaluasi kesesuaian lahan, kesuburan tanah, faktor pembatas, pupuk kandang sapi, pupuk KCl, tanaman pala, R/C rasio

## ABSTRACT

The selection of agricultural crops that will be developed should refer to the conditions of biophysical and crop growth requirements for the plant. The development of agriculture is essentially determined by the compatibility between the physical environment and the requirements of growing plants. Therefore, this research has been carried out consisting of three phases: (1) Land suitability evaluation and soil fertility classes for coconut, clove, cacao and nutmeg in Galela region, North Halmahera districts. Land suitability criteria use Simple Limitation Method and Sys Criteria, while the soil fertility status was determined by using Fertility Capability Classification version 4. (2) The effect of manure and KCl fertilizer on improving soil chemical properties and nutmeg plant growth (*Myristica fragrans* Houtt) on Inceptisol Galela, using Factorial Design in Randomized Block Design (RBD), and (3) Conducting feasibility analysis of nutmeg farming using R/C ratio in accordance with the land suitability class. The first result obtained 14 FCC unit classes at Galela district. The fertility classes having the most significant limiting factor were LLR<sup>+</sup>s<sup>-</sup>k (8%) with subgroup Lithic Haprendolls and LLr<sup>+</sup>s<sup>-</sup>n (14%) with subgroup Lithic Eutrudepts. The land suitability evaluation for coconut, clove, and nutmeg with Simple Limitation was obtained into two classes, ie S3 (marginally suitable) and N (unsuitable), as well as the Sys Criteria obtained by 2 classes ie S3 and S2 (moderately suitable). For cacao, with Simple Limitation was obtained into N class and Sys Criteria obtained by S3 class. The generally, limiting factors in the cultivation of plantation crops in Galela region, North Halmahera, include i.e rooting media, nutrient retention, nutrient availability, erosion hazard, drainage, and sodicity. The second results revealed a single application of cow manure of 500 kg ha<sup>-1</sup> and KCl 120 kg ha<sup>-1</sup> was the appropriate fertilizer dosage for mixed plant nutmeg. The third result revealed that nutmeg farming business in Galela region of North Halmahera Regency was advantageous because it has R/C ratio of 1.8, the nutmeg plants were feasible and could be developed in this region on land suitability classes S1, S2, and S3

Key words: Land suitability evaluation, soil fertility, limiting factor, cow manure, KCl fertilizer, nutmeg and R/C ratio