

Dawam Gumilang Arsydin Hadi, 210311100007, Evaluasi Kesesuaian Lahan Komoditas Pangan Utama di Kabupaten Bangkalan. Dibimbing Oleh: Fahmi Arief Rahman, S.P, M.Si, Erick Yuhardi, S.P., M.P., dan Ir. Slamet Supriyadi, M.Si

ABSTRAK

Penelitian ini bertujuan untuk mengevaluasi kesesuaian lahan empat komoditas pangan utama, yaitu padi sawah tadah hujan, jagung, kacang tanah, dan kedelai di Kabupaten Bangkalan dengan metode matching berdasarkan parameter iklim, sifat fisik dan kimia tanah, topografi, serta bahaya lingkungan. Hasil evaluasi menunjukkan bahwa kondisi kesesuaian lahan aktual didominasi oleh kelas S3 (sesuai marginal) dan N (tidak sesuai). Komoditas padi sawah tadah hujan memiliki luas kelas S3 sebesar 42.563,54 ha (62,21%) dan N 25.837,22 ha (37,78%) dengan potensi peningkatan ke S2 seluas 33.973,29 ha (49,68%), sedangkan 8.570,26 ha (12,53%) tetap S3 karena pembatas permanen. Jagung berada pada kelas S3 seluas 30.397,68 ha (44,45%) dan N 37.983,10 ha (55,54%) dengan peluang peningkatan ke S2 sebesar 4.162,86 ha (6,08%) dan ke S3 22.974,40 ha (33,5%). Kacang tanah didominasi kelas S3 42.814,76 ha (62,21%) dan N 25.997,36 ha (37,78%) dengan potensi peningkatan ke S2 4.167,53 ha (6,05%) dan ke S3 25.925,32 ha (37,67%), sedangkan kedelai menempati kelas S3 42.885,34 ha (62,32%) dan N 25.926,78 ha (37,67%) dengan potensi peningkatan ke S2 30.397,68 ha (44,17%) dan 12.487,66 ha (18,14%) tetap S3 akibat pembatas suhu rata-rata tahunan (tc). Faktor pembatas utama meliputi ketersediaan air (wa), drainase (rc), bahaya banjir (fh), retensi hara (nr), ketersediaan hara (na), dan bahaya erosi (eh) yang sebagian besar bersifat tidak permanen sehingga dapat diperbaiki melalui pengaturan waktu tanam, pembangunan irigasi, sistem drainase mikro, penambahan bahan organik, serta penerapan konservasi tanah. Hasil penelitian ini memberikan dasar ilmiah bagi pengembangan tata guna lahan yang adaptif dan berkelanjutan untuk mendukung produktivitas dan ketahanan pangan di Kabupaten Bangkalan.

Kata Kunci: *Evaluasi Kesesuaian lahan, Komoditas Pangan Utama, Bangkalan*

Dawam Gumilang Arsydin Hadi (Student ID: 210311100007) "Land Suitability Evaluation for Major Food Crops in Bangkalan Regency" Supervised by: Fahmi Arief Rahman, S.P., M.Si, Erick Yuhardi, S.P., M.P., and Ir. Slamet Supriyadi, M.Si

ABSTRACT

This study aims to evaluate the land suitability for four major food crops—rainfed lowland rice, maize, groundnut, and soybean—in Bangkalan Regency using a matching method based on climatic parameters, physical and chemical soil properties, topography, and environmental hazards. The evaluation results show that the actual land suitability conditions are dominated by class S3 (marginally suitable) and N (not suitable). Rainfed lowland rice occupies 42,563.54 ha (62.21%) in class S3 and 25,837.22 ha (37.78%) in class N, with a potential improvement to class S2 covering 33,973.29 ha (49.68%), while 8,570.26 ha (12.53%) remains in class S3 due to permanent limitations. Maize occupies class S3 over 30,397.68 ha (44.45%) and class N over 37,983.10 ha (55.54%), with potential improvement to class S2 covering 4,162.86 ha (6.08%) and to class S3 22,974.40 ha (33.5%). Groundnut is dominated by class S3 covering 42,814.76 ha (62.21%) and class N 25,997.36 ha (37.78%), with improvement potential to class S2 covering 4,167.53 ha (6.05%) and to class S3 25,925.32 ha (37.67%). Meanwhile, soybean occupies class S3 covering 42,885.34 ha (62.32%) and class N 25,926.78 ha (37.67%), with potential improvement to class S2 of 30,397.68 ha (44.17%), while 12,487.66 ha (18.14%) remains in class S3 due to permanent limitations of mean annual temperature (tc). The main limiting factors include water availability (wa), drainage (rc), flood hazard (fh), nutrient retention (nr), nutrient availability (na), and erosion hazard (eh), most of which are non-permanent and can be improved through planting schedule adjustments, irrigation development, micro-drainage systems, organic matter application, and soil conservation practices. The findings of this study provide a scientific basis for developing adaptive and sustainable land use planning to support agricultural productivity and food security in Bangkalan Regency.

Keywords: *Land Suitability Evaluation, Major Food Crops, Bangkalan*