

ABSTRAK

ANALISIS SPASIAL PRIORITAS PENANGANAN KERAWANAN PANGAN MENGGUNAKAN INTEGRASI METODE AHP-TOPSIS BERBASIS SISTEM INFORMASI GEOGRAFIS DI KABUPATEN PESAWARAN

Oleh

GEMILANG KUSUMA ADIKA

Kerawanan pangan merupakan permasalahan multidimensi yang dipengaruhi faktor geografis, sosial, ekonomi, dan aksesibilitas wilayah. Kabupaten Pesawaran memiliki karakteristik wilayah yang beragam sehingga menyebabkan perbedaan tingkat kerawanan pangan antarwilayah. Penelitian ini bertujuan mengidentifikasi kriteria beserta bobot indikator kerawanan pangan menggunakan metode *Analytical Hierarchy Process* (AHP), menentukan prioritas penanganan menggunakan *Technique for Order Preference by Similarity to Ideal Solution* (TOPSIS), serta menganalisis distribusi spasialnya berbasis Sistem Informasi Geografis (SIG).

Penelitian ini menggunakan data sekunder dari Badan Pusat Statistik, Dinas Pangan dan Hortikultura, Potensi Desa (PODES), dan *Food Security and Vulnerability Atlas* (FSVA). Unit analisis terdiri atas 144 desa pada 11 kecamatan di Kabupaten Pesawaran. Metode AHP digunakan untuk menentukan bobot indikator, sedangkan TOPSIS digunakan untuk menentukan prioritas penanganan yang selanjutnya divisualisasikan menggunakan SIG.

Hasil penelitian menunjukkan bahwa indikator dengan bobot tertinggi adalah rasio jumlah penduduk dengan tingkat kesejahteraan rendah (0,26), diikuti rasio luas lahan pertanian (0,25) dan rasio sarana prasarana penyedia pangan (0,16). Hasil TOPSIS menunjukkan Desa Gedong Dalam termasuk kategori Rentan, Desa Kota Dalam dan Desa Halangan Ratu termasuk kategori Cukup Tahan, sedangkan sebagian besar desa berada pada kategori Tahan. Kategori Sangat Tahan antara lain terdapat pada Desa Tanjung Rejo dan Desa Tanjung Kerta di Kecamatan Way Khilau. Analisis spasial menunjukkan bahwa wilayah Rentan dan Cukup Tahan terkonsentrasi di Kecamatan Way Lima dan Negeri Katon, sedangkan kategori Tahan mendominasi sebagian besar wilayah Kabupaten Pesawaran. Integrasi metode AHP-TOPSIS dan SIG menghasilkan peta prioritas penanganan kerawanan pangan yang dapat dijadikan dasar dalam penentuan prioritas intervensi dan penyusunan kebijakan penanganan kerawanan pangan di Kabupaten Pesawaran.

Kata Kunci: Kerawanan Pangan, AHP, TOPSIS, Sistem Informasi Geografis, Kabupaten Pesawaran

ABSTRACT

SPATIAL ANALYSIS OF PRIORITIES FOR ADDRESSING FOOD INSECURITY USING AN INTEGRATION OF THE AHP-TOPSIS METHODS BASED ON A GEOGRAPHIC INFORMATION SYSTEM IN PESAWARAN REGENCY

By

GEMILANG KUSUMA ADIKA

Food insecurity is a multidimensional issue influenced by geographical, social, economic, and regional accessibility factors. Pesawaran Regency has diverse regional characteristics, resulting in varying levels of food insecurity across villages. This study aims to identify the criteria and weighting of food insecurity indicators using the Analytical Hierarchy Process (AHP), determine food insecurity handling priorities using the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), and analyze their spatial distribution based on a Geographic Information System (GIS). This study employed secondary data obtained from Statistics Indonesia (BPS), the Department of Food Crops and Horticulture, Village Potential Statistics (PODES), and the Food Security and Vulnerability Atlas (FSVA). The unit of analysis consisted of 144 villages across 11 sub-districts in Pesawaran Regency. The AHP method was used to determine the weights of the indicators, while the TOPSIS method was applied to determine the priority level for food insecurity handling, which was subsequently visualized using GIS. The results showed that the indicator with the highest weight was the ratio of population with low welfare status (0.26), followed by the ratio of agricultural land area (0.25) and the ratio of food facilities and infrastructure (0.16). The TOPSIS analysis identified Gedong Dalam Village as belonging to the Vulnerable category, while Kota Dalam Village and Halangan Ratu Village were classified as Moderately Food Secure. Most villages were categorized as Food Secure, whereas the Highly Food Secure category included Tanjung Rejo Village and Tanjung Kerta Village in Way Khilau Sub-district. Spatial analysis indicated that the Vulnerable and Moderately Food Secure categories were concentrated in Way Lima and Negeri Katon Sub-districts, while the Food Secure category dominated most areas of Pesawaran Regency. The integration of the AHP–TOPSIS methods and GIS produced a food insecurity priority map that can serve as a basis for determining intervention priorities and formulating food insecurity management policies in Pesawaran Regency.

Keywords: Food Insecurity, AHP, TOPSIS, Geographic Information System (GIS), Pesawaran Regency.