INTISARI

Pemanfaatan teknologi SIG digunakan untuk mengetahui kondisi fisik lahan menggunakan foto udara sehingga relatif lebih cepat dan hasil akurasi data cukup tinggi. Selopamioro memiliki kondisi fisik meliputi bentuk lahan perbukitan, curah hujan sedikit, ketebalan tanah tipis, serta batuan induk bersifat lapuk dan mudah rekah, sehingga menyebabkan porositas tanah tinggi berakibat terjadi kekeringan. Kondisi lahan dengan ketersediaan air yang kurang berdampak pada pertanian yang menjadi mata pencaharian masyarakat. Tujuan penelitian untuk memberikan rekomendasi zona pembuatan embung sebagai bangunan pemanen air hujan. Metode yang digunakan adalah interpretasi foto udara, survey lapangan dan analisis neraca air. Interpretasi foto udara digunakan untuk identifikasi geomorfologi, penggunaan lahan dan sebaran embung. Survey lapangan dilakukan untuk validasi sebaran dan karakteristik embung, identifikasi karakteristik tanah dan wawancara petani. Analisis neraca air digunakan untuk perhitungan nilai SRO (Aliran permukaan) pada setiap penggunaan lahan. Sekitar 9,52% dari luas total area penelitian cocok/sesuai untuk dibangun embung. Pemanfaatan foto udara mampu mengidentifikasi sebaran embung sebesar 81,33%. Kriteria fisik lahan yang sesuai dalam penentuan rekomendasi zona pembuatan embung meliputi karakteristik geomorfologi, karakteristik lereng, karakteristik tekstur tanah dan karakteristik penggunaan lahan

Kata Kunci: SIG, Embung, Neraca Air, Rekomendasi zona embung

ABSTRAK

Geographic Information System (GIS) is a computer-based information system that has a spatial reference or geographic coordinates that can produce information based on mapping geographic coordinates. The utilization of GIS technology was used to determine the physical condition of the land using aerial photos so that the time required is relatively faster and the results of data accuracy are quite high. Selopamioro has bad physical conditions including hilly terrain, low rainfall, thin soil thickness, and weathered source rock that breaks easily, this causes high soil porosity which results in drought in the area. The condition of the land with less availability of water has an impact on the livelihoods of the surrounding area who depends on agriculture. The purpose of this study was to provide a suggestion zone for making reservoirs to store the rain permanently. The method used in this research was the interpretation of aerial photographs, field surveys, and water balance analysis. Aerial photo interpretation in the form of FUFK imagery was used to identify geomorphology, the use of the land, and the distribution of reservoirs. Field surveys were conducted to validate the distribution and characteristics of the reservoirs, identify soil characteristics, and interview the farmers. Water balance analysis was used to calculate the SRO (Surface Run-Off) value for each use of the land. Approximately 9.52% of the total research area was suitable for the construction of reservoirs. The use of aerial photography could identify the distribution of the reservoirs by about 81.33%. The physical criteria for the appropriate land in determining the suggestion zone for the construction of reservoirs include geomorphological characteristics, slope characteristics, soil texture characteristics, and the use of the land characteristics.

Keywords: GIS, Reservoirs, water balance, Suggestion of reservoirs zone.