

## **ABSTRAK**

### **STUDI PERENCANAAN IRIGASI DAS MALAYA DI KECAMATAN LEMONG KABUPATEN PESISIR BARAT PROVINSI LAMPUNG BERBASIS SISTEM INFORMASI GEOGRAFIS**

**Oleh**

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Kabupaten Pesisir Barat memiliki potensi dibidang pertanian khususnya tanaman padi. Namun karena belum ada perencanaan irigasi yang baik dimusim kering. Sehingga untuk meningkatkan produktivitas lahan padi di Pesisir Barat, perlu dilakukan analisis kebutuhan air irigasi di Kabupaten tersebut. Oleh karena itu, dilakukan penelitian tentang analisis kebutuhan air irigasi untuk mendapatkan debit air yang dibutuhkan dalam pengairan lahan guna mengembangkan potensi sumber daya air di daerah aliran sungai Way Malaya Kecamatan Lemong, Pesisir Barat. Analisis kebutuhan air irigasi meliputi analisis neraca air lahan dengan model SWAT (*Soil And Water Assessment Tools*), kebutuhan air tanaman, kebutuhan air irigasi, debit andalan, dan kecukupan sumber daya air. Penggunaan Sistem Informasi Geografis (SIG) dilakukan untuk membantu proses penelitian. Potensi sumber daya air di Kecamatan Lemong dapat memenuhi kebutuhan air irigasi tanaman padi dua kali musim tanam dengan luas lahan 76,42 Ha. Sedangkan pada penanaman palawija potensi sumber daya air hanya mencukupi kebutuhan air irigasi untuk luas lahan 19 Ha dan membutuhkan penambahan debit air tanah sebesar  $0,51 \text{ m}^3/dt$  agar luas tanam dapat ditingkatkan menjadi 76,42 Ha.

**Kata Kunci:** Irigasi, Sistem informasi geografi, SWAT.

## **ABSTRAK**

### **STUDY OF MALAYA WATERSHED IRRIGATION PLANNING IN LEMONG SUB-DISTRICT PESISIR BARAT REGENCY LAMPUNG BASED ON GEOGRAPHIC INFORMATION SYSTEM**

**By**

**STEFFANUS ADRIAN WIBOWO WICAKSONO**

Pesisir Barat Regency has the potential in agriculture, especially rice. However, there is no management of water resources available in dry season. So that in order to increase the productivity of paddy fields at Pesisir Barat, it is necessary to analyze the needs for irrigation water in the district. Therefore, it is necessary to conduct research on the analysis of irrigation water needs to obtain the water discharge needed for land irrigation in order to develop the potential of water resources in Way Malaya, Lemong District, Pesisir Barat. Analysis of irrigation water needs includes analysis of land water balance using the SWAT (Soil And Water Assessment Tools) model, crop water needs, irrigation water needs, reliable discharge, and adequacy of water resources. The use of Geographical Information Systems (GIS) is carried out to assist the research process. Potential water resources in Lemong Subdistrict can meet the needs of irrigation water for rice plants twice the planting season with a land area of 76.42 hectares. Whereas in the cultivation of secondary crops, the potential of water resources is only sufficient for irrigation water for a land area of 19 hectares and requires additional groundwater discharge of  $0,51 \text{ m}^3/\text{dt}$  so extensive planting can be upgraded to 76,42 Ha.

**Keywords:** Irrigation, Geographic information system, SWAT.