

ANALISA NILAI ANGKA TETAP UNTUK MENENTUKAN PRODUKTIFITAS PADI BERBASIS ALGORITMA K-MEANS DAN DECISION TREE C4.5 DI JAWA TENGAH

MAHARDHIKA ARDHA DWIPUTRA

(Pembimbing : Erna Zuni Astuti, M.Kom)

Teknik Informatika - S1, FIK, Universitas Dian Nuswantoro

www.dinus.ac.id

Email : 111201307818@mhs.dinus.ac.id

ABSTRAK

Padi merupakan tanaman yang menjadi sumber bahan makanan pokok penduduk Indonesia. Untuk memenuhi kebutuhan makanan pokok ini, upaya-upaya peningkatan produktivitas padi harus terus dilakukan. Dinas Pertanian Tanaman Pangan dan Hortikultura (Dinperten TPH) Provinsi Jawa Tengah merupakan unsur pelaksana otonomi daerah di bidang pertanian tanaman pangan dan hortikultura yang berkedudukan di bawah dan bertanggungjawab kepada gubernur melalui sekda. Database Dinperten TPH memiliki data mengenai angka tetap (ATAP) provitas tahunan yang berisi angka panen tanaman tiap kabupaten di Provinsi Jawa Tengah. Data ATAP tersebut dapat diketahui pola data dan informasi untuk pengambilan keputusan apabila digali dengan tepat. Data mining bisa berperan dalam proses penggalian pola dan informasi pada data ATAP agar didapatkan pengetahuan untuk pengambilan keputusan. Pada penelitian ini, peneliti melakukan analisa terhadap data panen padi di Jawa Tengah dengan metode CRISP-DM dengan algoritma K-Means dan Decision Tree C4.5 yang nantinya akan memberikan hasil analisa terhadap produktivitas padi khususnya di Jawa Tengah. Proses evaluasi dilakukan dengan menggunakan confusion matrix. Hasilnya, algoritma Decision Tree C4.5 menunjukkan nilai akurasi 86,67% dan rasio kesalahan 13,33%.

Kata Kunci : Panen Padi, Data Mining , Decision Tree C4.5

FIXED RATE ANALYSIS FOR DETERMINING RICE PRODUCTIVITY BASED ON K-MEANS AND DECISION TREE C4.5 ALGORITHM IN CENTRAL JAVA

MAHARDHIKA ARDHA DWIPUTRA

(Lecturer : Erna Zuni Astuti, M.Kom)

*Bachelor of Informatics Engineering - S1, Faculty of Computer
Science, DINUS University*

www.dinus.ac.id

Email : 111201307818@mhs.dinus.ac.id

ABSTRACT

Rice is a plant that is the main source of the staple food of Indonesia. To meet the needs of this staple food, efforts to increase rice productivity should continue to be done. Department of Agriculture Food Crops and Horticulture (Dinpertan TPH) Central Java Province is the implementing element of regional autonomy in the field of food crops and horticulture which is located under and responsible to the governor through the regional secretary. Database Dinpertan TPH has annual fixed figures (ATAP) figures containing annual crop yields for each district in Central Java Province. ATAP data can be known patterns of data and information for decision-making when excavated properly. Data mining can play a role in the process of extracting patterns and information on ATAP data to obtain knowledge for decision making. In this study, the researchers analyzed the rice harvest data in Central Java with CRISP-DM method with K-Means and Decision Tree C4.5 algorithm which will give analysis result of rice productivity, especially in Central Java. The evaluation process is done by using confusion matrix. As a result, the Decision Tree C4.5 algorithm shows an accuracy of 86.67% and an error rate of 13.33%.

Keyword : Rice Harvesting, Data Mining, Decision Tree C4.5