

# Analisis perubahan penggunaan lahan sawah di Kabupaten Karawang tahun 1989 dan 1997 dengan citra landsat TM = Land Use Change Analysis of Rice Field in Kabupaten Karawang in the Years of 1989 and 1997 Using Landsat TM Image

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## Abstrak

The title of the thesis is "Land Use Change Analysis of Rice Field in Kabupaten Karawang in the Years of 1989 and 1997 Using Landsat TM Image".

Rapid growth of population and various human activities are main causes of land use change of rice field in Kabupaten Karawang. Geographically, Kabupaten Karawang is located in West Java Province, mostly in flat area; having fertile soil comprises of volcanic alluvium, i.e., sand, ash and clay. The area is popular as one of the national rice producing areas.

The observation of this thesis was conducted for analyzing land use changes of the years of 1989 and 1997. Within those time periods with the help of Landsat images the changes of land use on rice fields into developed areas are observe able, reducing the area of the total rice fields. The unit analysis is kecamatan. To estimate the changes, this thesis uses a land use changes models, i.e.,  $L = f(\text{Economy, Population, and Policy})$ , where L indicates land use change from rice field into developed area. L is considered as a dependent variable, representing human dimension. The independent variables are economy, population, and policy. These variables were tested with multiple linier regression analysis.

The economic variable comprises of PDRB (Regional Gross Domestic Product) of industry, PDRB of cash crops, and PBB (Property Tax). Population variable consists of total population of the of 0 to 74 years old, total farm labors of 10 to 64 years old, and total non farm labor of 10 to 64 years old. Policy variable involves the region of developed area, the number of SD (elementary school), SMP (junior school), and Puskesmas.

The analysis of Landsat 5 TM images shows that the highest changes are in Kecamatan Cilamaya and Telukjambe. The less changes are in Kecamatan Pangkalan and Lemahabang.

Statistical analysis was applied to get better understanding of the changes of rice fields into developed areas. An equation was used to observe the growth of changes of rice fields into developed area, and the pattern of land change of rice fields into develop area in the year of 1997 to 1989.

From the results of statistical analysis it can be concluded that the pattern of land use change of rice fields into developed area in the year of 1997 to 1989 has a significant correlation with the dependent variables. The equation can be used as a model to analyze the changes of the area of rice fields into developed area.