

**MAPPING OF BUILT LAND USE AREA USING SATELLITE IMAGERY FOR
CALCULATION OF LAND AND BUILDING TAX:
CASE STUDY OF BEKASI CITY, INDONESIA**

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ABSTRACTS

Needs of built land continue to increase along with population growth, development and regional growth as well as development of transportation and infrastructure. Bekasi city, a city in adjacent to the capital of the country, has a built land growth high enough. This study aims to map built land in Bekasi City for the year 2009/2010 and changes during the 20-year analysis (1989-2000-2005-2009/2010). The results are used to estimate the potential land and building tax revenue. The study was conducted using Landsat TM 1989, 2000 and 2005, as well as the image of ALOS-AVNIR 2009. The results showed that the use of residential land in Bekasi increased very rapidly in the period of 1989-2009. In the period of 1989 - 2009, there are an increase in residential land use and building area of 13 755.90 ha (65.4% of the area of Bekasi, or at a rate of 6.54% per year). This rate is higher than the population growth rate of 4.14% in the period of 1997-2007. Total residential land and building area of Bekasi City in 2009 was 14 879.85 ha (70.69% of the total area of Bekasi City). Realization of revenue receipts from formal land and building tax is still lower than its potential. Theoretically it is possible to increase the income of the tax with increasing intensity and admission efforts. The results obtained indicate the need for quality improvement in tax database, especially the data base of the land and building, the need for more detailed calculations using a more detailed imagery (QuickBird, Ikonos) for deriving revenue potential, and the need for georeferenced tax database, in order to develop the future GIS-based monitoring tax. The results of this research can also be used as a historical analysis of built land as a function of the development of the city.

Key-words: Land and building tax, residential land, tax revenue