

**COMPARATIVE STUDY ON LAND-USE AND LAND-COVER
CLASSIFICATION USING UNSUPERVISED CLUSTERING
TECHNIQUES ON THEOS DATA IN NAKHON RATCHASIMA
MUNICIPALITY AND VICINITY**

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ABSTRACT: Remotely sensed data acquired from the Thailand Earth Observation System (THEOS) have specific characteristics in forms of spatial and radiometric resolutions different from other data. The thematic extraction from the data through unsupervised clustering techniques can be operated quickly to serve certain purposes. Different techniques applied shall provide results with different accuracy. The objective of this study is to compare the accuracy of land-use and land-cover classification using ISODATA, K-means, and Fuzzy c-means techniques operating on THEOS multispectral data. The study area is Nakhon Ratchasima municipality and the vicinity which is the representative of the fast growing area in the northeastern region of Thailand. The accuracy assessment is relied on the overall accuracy and the Kappa statistics. The merit of techniques related to a particular class is described based on producer's and user's accuracies.