

## **Application of Kappa Index of Agreement (KIA) for Monitoring of Land Cover Changes in Coastal Areas of Bushehr Province (Time Period 1987-2011)**

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### **Abstract**

This study is trying to detect land cover changes in coastal areas of Bushehr province using cross classification and tabulation analysis. Land cover changes detection have done using Landsat satellite images belonging to the years 1987, 2001, 2006, and 2011. Results showed significant changes in the study area in the last 23 years by converting the 20807 ha of open spaces and 3724 ha of farm lands to residential lands. Also, 67890 ha from farmlands are converted to open space and other covers are changed too. The result of Kappa Index Agreement (KIA) analysis showed that most and least amounts of changes have been occurred in 2006-2010 (KIA: 0.9212) and 1988-2001 (KIA: 0.9506), respectively. Therefore, the results of this research shows unbalanced land cover changes in coastal areas of Bushehr province. The farmlands decline for increasing the residential development and loosing farm land are most important examples of changes. Therefore, with the current trend of degradation, environmental and social problems will threat the future situation of coastal areas of Bushehr province.

Keywords: *Change Detection, Land Cover, Remote Sensing, Kappa Index of Agreement, Coastal areas of Bushehr Province.*

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