LAND COVER CHANGE IN THE MEKONG DELTA, VIETNAM

EXPANSION OF URBAN AREA IN HOCHIMINH CITY

Hochiminh city is one of the urban areas with the highest rate of urbanisation in Vietnam.
- By using the archived Landsat imageries from 1972 to 2010, the trend of the urban expansion has been identified with the aid of GIS, spatial analysis.
- Based on analysis of spectral response of visible and IR bands with land cover types density and continuity of constructions' build-up.
- Urban area of Hochiminh city has been spreaded out two times in radius and three times in area from 1972 to 2010 (approx. 40 years). Urban area is identified by using spatial analysis.
- The expansion pattern is spatially unequal. The trend is more extent at the north and the north east than at the south.

LAND COVER CHANGE IN THE PLAIN OF REEDS (TAM NONG AREA), MEKONG DELTA

The Plain of Reeds is characterized as low, brackish-like, alluvial swampy region, a northwestern extension of the Meokong delta, in central Vietnam and eastern Cambodia. It is bounded on the southeast by the Tien Giang River and Vinh Long River, on the northeast.

Historically, this area was a large natural swamp and it was a natural reservoir of highly valuable biological diversity until the 15th century and all of the Mekong Delta wetlands remained in their pristine state. Typical habitats at the Plain of Reeds are emergent vegetation, inundated forest and inundated grasslands (Mekong Delta from the name of Elephas spp.). In the 19th century, canals were constructed for transportation and irrigation. During 1960s-1970s, new large canals were built to drain off the marsh for the military purposes, removing trees and drying swamps. In 1980s, some new roads were built and some villages and new households were created. The land cover change leads to changes of natural landscapes and ecosystems resulting in declination of biodiversity.

In the Sa Dec segment of the Mekong river, river bank are eroded at the south bank and accumulated at the north bank simultaneously, extent about 20km from My Thuan up to Tan Qui Dong, Sa Dec. Result of this process from a long period, observed from 1966 to 2010, makes the river channel shifted southward. The river is narrower and new "bottle neck" appeared at the Sa Dec area.

Shifting trend of river channel: southward

In 1960s and 1970s, large area was still remained as natural and pristine. Melaleuca forests and grassland are typical landscape of the wetland, seasonally flooded in rainy season.

The pattern of land cover/land use at Tam Nong area has crucial change. The natural pristine land with grass-mashes and Melaleuca forests, covered more than one half of the area, was the excellent habitat for wild life, particularly for Crane has been replaced by large paddy. A remarkable change of cropping pattern has taken place since 1970s. Double rice crop replaced one crop pattern indicating an intensification of rice cultivation. The area of double crops a year has increased eight times from 1985 to 2005. At the present, this pattern becomes widespread at the Plain of Reeds, and some places with triple crops developed.

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