Remote Sensing and Sustainable Agricultural Development in Nile Delta Region

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SUMMARY

Coastal areas characterized by low and flat surface and light slope, especially in estuaries, this is one of the most serious problems facing Egypt because of its negative effect on sustainable agricultural development(Kawy and Darwish, 2014). Sustainable development aims to improve the quality of people's live and preserves the rights of future generations through many goals(Saad Moghanm et al., 2019). Remote sensing techniques used to monitor change detection such as Land use changes, coastal changes and urban creep while urban growth causes pressure on land resources, leading to agricultural land degradation and widening the gap between population growth and agricultural land(Haboudane et al., 2004). This research aims to study the sustainable agricultural development for Kafr El-Sheikh Governorate using remote sensing and GIS. Kafr El-Sheikh Governorate located on the north of Egypt between the two branches of Nile River and is bordered to the north by the Mediterranean Sea with a length of 111 km (Abdelsalam, 2018).

Based on the study and analysis of the results of previous vegetation indices, these seven indices were grouped together by layer staking in order to produce a new visual consisting of seven bands each band represents one of the seven indices. In general, the results showed that during the period 1984 – 2018 there were significant changes in the area of agricultural land, the total added area of agricultural land is 331 km2, as a result of the agricultural reclamation expansion. The study area lacks the infrastructure supporting the agricultural education and research because of poor coordination and absence of direct farmers' involvement. Infrastructure is not in line with population growth as there are not enough schools, central hospitals and health units.