



# Prof. Dr. Adel Shalaby

**Title:** Professor, head of environmental studies and land use division

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## Speaker Biography:

Adel Shalaby, professor and head of environmental studies and land use division. He has authored more than 50 publications in international peer-reviewed scientific journals and conferences. He was a member of organizing and scientific committees for international conferences, while he has been active as a reviewer in more than 30 Scopus Index scientific journals. He worked as an expert at the AOAD and cooperative researcher at Chiba University. He has participated in more than 30 research projects in Japan and Egypt and joint projects with the European Union. The focus of his present research is on using remote sensing techniques to explore land resources for the purpose of agricultural sustainable development. Currently, he is working on national research projects focusing on sustainable agricultural development in the western desert of Egypt and the New Delta project.

## Presentation Title:

**A GIS based model for automated land suitable assessment for main crops in the New Delta, North-Western desert of Egypt**

## Abstract:

The ever-increasing population causes huge pressure on the areas already inhabited and causes a decrease in an area per capita. This fact necessitates an essential demand for evaluating and classifying the soil according to its agricultural productivity for different crops. This research aimed to evaluate lands which proposed to use in the agricultural field in the South of Al-Dabaa Corridor based on remote sensed data and GIS techniques. Moreover, the future optimum agricultural use planning will be projected based on the land assessments in the study area. Land suitability was evaluated using ALES -arid software for six crops. It was found that 74 % of the study area was suitable for one fruit crops; Date palm and about 77.3 % for one crop; Alfalfa and also suitable for one vegetable crop; Tomato by 77.1 %. Furthermore, it was found that the study area was moderately suitable for other two crops; Faba bean and Maize (72.7 and 67.8 %), and one fruit crop; citrus (70.1 %). On the other hand, it was found the most characteristics that affected the suitability class of fruit crops were soil salinity, soil depth, ESP, slope and the coarse texture. Finally, the study area should go under major reclamation process (removal of the excess salts and improving the drainage conditions) in order to obtain the highest production. It is recommended that modern irrigation systems such as pivot, sprinkler and drip irrigation must be used to conserve irrigation water and ensure sustainable agriculture.