بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

SUSTAINABILITY OF OLD CULTIVATED SOILS IN EL-FAYOUM GOVERNORATE, EGYPT

By

BATOOL ADEL ABD El-AZIZ ABD El-MAGEED

B.Sc. Agric. Sci. (Soil Science), Fac. Agric., Cairo Univ., 2015

THESIS

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APPROVAL SHEET

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APPROVAL COMMITTEE

Dr. ADEL SAAD EL- HASSANIN……..

Professor of Soil Science, Fac. African postgraduate studies, Cairo Univ.

Dr. MAHER ABD El-MOHSEN ABD El-HAMID……..

Professor of Soil Science, Fac. Agric., Cairo Univ.

Dr. ALI ABD EL-HAMEED ABD EL-HADY……

Professor of Soil Science, Fac. Agric., Cairo Univ.

Dr. WAEL AHMED ABD EL-KAWY.....

Professor of Soil Science, Fac. Agric., Cairo Univ.

Date: / /

SUPERVISION SHEET

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SUPERVISION COMMITTEE

Dr. WAEL AHMED ABD EL-KAWY

Professor of Soil Science, Fac. Agric., Cairo Univ.

Dr. ALI ABD EL-HAMEED ABD EL-HADY

Professor of Soil Science, Fac. Agric., Cairo Univ.

Dr. TOLBA SALEH ABD EL-AAL

Professor of Soil Science, Fac. Agric., Fayoum Univ.

Name of Candidate: Batool Adel Abd El – Aziz Abd El – Mageed **Degree:** M.Sc.
Title of Thesis: Sustainability of old cultivated soils in El – Fayoum Governorate, Egypt
Supervisors: Dr. Wael Ahmed Abd El- Kawy
Dr. Ali Abd El- Hameed Abd El- Hady
Dr. Tolba Saleh Abd El- Aal

Department: Soil Science **Branch:** Pedology
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ABSTRACT

The main objective of this work is to evaluate sustainable land use management (SLM) of some areas at El- Fayoum Governorate through biophysics and socio-economic elements for the purpose of combating and tackling sustainability constraints that preclude the agricultural development. The studied area is located at west of the Nile at 90 km southwest of Cairo between latitudes 28°56′ and 29°28′ N and longitudes 30°15′ and 31°05′ E. It covers an area of about 1783.38 km^2. From the geomorphological point of view, three main landscapes were identified in El –Fayoum depression: (1) Alluvial plain deposits covers 853.73 Km^2 and representing 47.87 % of the total area (2) Fluvio-Lacustrine plain deposits covers 631.81 Km^2 and representing 35.42 % of the total areas and (c) Lacustrine plain deposits covers 297.84 Km^2 and representing 16.70% of the total area. Some physical and chemical degradation processes dominated the study area with different scales breaking down the equilibrium of soil stability. physiographic map was obtained by using Landsat 8.0 Enhanced image dated to year 2018 coupled with digital elevation model into ENVI software version 5.2.Thirty three soil profiles were selected to represent the main geomorphic unites at the study area. Soil profiles were morphologically described according to FAO guidelines (2006), USDA (2014) was used to classify the different Soil profiles according to the morphological description of the investigated profiles and physical and chemical properties of the collected soil samples. The soils of the studied area are classified as Entisols and Aridisols (Typic Calciorthents, Typic Torrifluvents, Typic Natrargids, Typic Haplogypsids and Lithic Calciargids). ArcGIS version 10.5 used for mapping soil variables, modeling and GIS work for the current study. Sustainable Land use management (SLM) was extracted from the perspective of productivity, security, protection, economic viability and social acceptability factors. Two SLM classes were recognized at the studied area as follows: Class III: Marginally but below the threshold of sustainability 0.1 – 0.3 dominant at the Alluvial deposits, representing 47.85 % of the studied area , Class IV: Do not meet the sustainability requirements 0 – 0.1 dominant at the Fluvio-lacustrine deposits and Lacustrine deposits, representing 52.15 % of the studied area.

Keywords: Sustainable land use management, Remote sensing; GIS, El-Fayoum Governorate, Egypt

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DEDICATION

I dedicate this work to my parents and brothers for all the support they lovely offered during my post-graduate studies.