

List of content

Page No	Subjects
.i	Dedication
.ii	Acknowledgments
iii	(Abstract(English
.	
iv	(Abstract(Arabic
.	
v	List of content
.	
vi	List of figures
.	
vii	List of tables
.	

Chapter 1

Introduction

1	Background 1.1
1	Concepts and purpose 1.2
1	Hyphoses 1.3
2	Research problem 1.4
2	Objectives 1.5

Chapter 2

Environmental Setup

3	General Features .2
3	location and Extent 2.1
3	Geomorphology 2.2
3	Landform and Physiographiy 2.3
4	Soil Genesis 2.4
4	Climate 2.5
5	Land Use 2.6
6	Natural vegetation 2.7
6	Infrastructure 2.8

Chapter 3

Literature Review

7	BACKGROUND 3.1
7	Geomorphology and surface feature 3.2

7	Geomorphology 3.2.1
7	Soil Landscape 3.2.2
7	Soil horizons 3.2.3
8	Soil Color 3.2.4
8	The Soil 3.2.5
11	Physical Properties of Soils 3.3
11	Soil texture 3.3.1
12	:Soil Structure 3.3.2
14	:Soil Density 3.3.3
14	:Consistency and Plasticity 3.3.4
14	:Drainage and Permeability 3.3.5
14	:Hydraulic conductivity 3.3.6
15	Infiltration Rates 3.3.7
16	Soil Pores 3.3.8
16	:Soil Roots 3.3.9
17	Chemical characteristics 3.4
18	Soil reaction 3.4.1
18	Salinity 3.4.2
18	Sodicity 3.4.3
19	Organic content and available phosphorus 3.4.4
20	Gypsum 3.4.5
20	Soil mapping 3.5
20	Kinds of Map Units 3.5.1
20	Consociations 3.5.1.1
21	Complexes and associations 3.5.1.2
21	Undifferentiated groups 3.5.1.3
21	Similar Soils 3.5.1.4
22	Dissimilar Soils 3.5.1.5
22	Soil Taxonomy 3.6
23	USDA Soil Taxonomy categorical levels 3.6.1
23	WRB Soil Taxonomy Categorical Levels 3.6.2
25	Land suitability classifications 3.7
25	Land capability and land suitability classification 3.7.1
25	Qualitative and Quantitative Classifications 3.7.2
26	Structure of the suitability classification 3.7.3
26	Land Suitability Orders 3.7.3.1
27	Land Suitability Classes 3.7.3.2
28	Land Suitability Subclasses 3.7.3.3
28	Land Suitability Units 3.7.3.4
28	Conditional Suitability 3.7.3.5
29	Classifications of Current and Potential Suitability 3.7.3.6
29	Land Utilization Type 3.7.3.7

Chapter 4

Materials and Methods

31	Materials 4.1
----	---------------

31	Location 4.1.1
31	Maps and satellite images 4.1.2
31	Field equipment 4.1.3
33	Methods 4.2
33	Field methods 4.2.1
35	Laboratory methods 4.2.2
38	Soil Classification 4.2.3
38	Land Suitability Classification for Crops 4.2.4

Chapter 5

Results & Discussion

39	Soil morphological Characteristics 5.1
39	Soil color 5.1.1
40	Soil texture 5.1.2
40	Structure and porosity 5.1.3
40	The diagnostic features 5.1.4
40	:Chemical Characteristics 5.2
40	(Recent Alluvium- RA. (Silty Clay Loam 5.2.1 4.1.1
40	(Semi-recent alluvium-SRA. (Silty Clay 5.2.2 4.1.2
40	(Old alluvium silty clay loam- OA. (Clay 5.2.3 4.1.3
42	:Soil classification and correlation 5.3
42	Land Suitability 5.4
43	Land Suitability Unit in the study area 5.5

Chapter 6

Conclusion & Recommendations

47	Conclusion 6.1
47	Recommendations 6.2
49	References
52	Appendices