Faculty of Archeology
Egyptology Department

Paleo-environmental Reconstruction of Balat/North-1 Site, Dakhla Oasis, Egypt: A Geo-archeological Study

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Submitted by:
Nevin Wahid Soliman Maarouf

Under supervision of:
Prof. Dr. Salwa Kamel
Head of the Egyptology Department, Faculty of Archeology,
Cairo University

Prof. Dr. Mohamed A. Hamdan
Professor of Geo-archeology,
Faculty of Science,
Cairo University

Prof. Dr. Olaf Bubenzer
Professor of Physical Geography,
Institute of Geography,
Heidelberg University, Germany

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ABSTRACT

In recent decades, numerous studies have focused on the climate fluctuations during the Late Holocene period, around 5800 BP, and their effects on human settlement in the Egyptian Dakhla Oasis and surrounding regions. These studies have approached the topic from archeological and geological perspectives, aiming to explore the interaction between humans and their environment.

The Sheikh Muftah culture, a significant cultural group during the Late Holocene, is the latest prehistoric cultural unit known to have inhabited the Dakhla Oasis, from approximately 5000 BP and lasting into the Late Old Kingdom period; nearly 2000 years. It is believed that this culture comprised indigenous pastoral nomads of the Oasis who adapted to the extremely dry periods in the Oasis, while other groups moved to the Nile Valley. However, little is known about their possible distribution and activities in the Dakhla Oasis and beyond.

Since 1987, sites of this culture, identified by fireplaces, bone concentrations, and pottery and flint tools, have been discovered, but only a few remain *in situ*. This has made the understanding of this cultural unit challenging. Therefore, this thesis aims to focus on this enigmatic culture, particularly in the Balat region, addressing one of the most significant aspects of Environmental Archeology: the study of the interaction between humans and their environment and the influence of this environment on their activities using geo-archeological techniques.

The study seeks to contribute to the field of Environmental Archeology by utilizing these techniques to analyze soil samples obtained from the Balat/North-1 Site at Dakhla Oasis, Egypt; to reconstruct the paleo-environment of this Late Holocene culture at Balat, known as the Sheikh Muftah Culture, and provide a comprehensive understanding of this culture, which is considered to be the most enigmatic of all Holocene cultures at the Oasis.

In this thesis, the researcher aims to comprehend the various paleo-environmental and paleo-climatic influences on Sheikh Muftah culture at the Oasis in general, and the Balat/North-1 Site at Balat in particular, throughout the Late Holocene. Therefore, the study will focus on the geo-archeological evidence from the Sheikh Muftah cultural unit at Dakhla Oasis, using some soil samples taken during the excavations of the IFAO (Institut français d'archéologie orientale) between 2013 and 2014 at the Balat/North-1 Site. Additionally, the researcher conducted sediment, mineral, and chemical analyses at the laboratories of the IFAO and the Faculty of Science, Cairo University.

CONTENTS

ACKNOWLEDGMENTS i

ABSTRACT ii

KEYWORDS iv

LIST OF FIGURES viii

LIST OF TABLES xiii

ABBREVIATIONS xiv

1. INTRODUCTION 1

1.1. Significance and Objectives of Research 1

1.2. Questions of Research 2

1.3. Methods of Research 3

1.3.1. Geo-archeological Techniques 3

1.3.2. Archeological Studies 10

1.4. Relevant Literature Review 11

1.4.1. Archeological Literature 11

1.4.2. Geo-archeological Literature 12

2. CHAPTER ONE: Previous Archeological Work at Dakhla Oasis, Egypt 13

2.1. Historical Importance 13

2.2. Previous Visits and Missions 17

2.2.1. Individual Visits 17

2.2.2. Excavation Missions 18

3. CHAPTER TWO: Geology, Geomorphology and Climate of Dakhla Oasis, Egypt 23

3.1. General Geologic Aspects 24

3.2. Geomorphology of Dakhla Oasis Depression 25

3.2.1. Egyptian Limestone Plateau 28

3.2.2. Escarpment and Piedmont Surface 29

3.2.3. The Lowlands 29

3.2.4. Southern Cuesta Region 31

3.3. Stratigraphic Sequence of Dakhla Oasis 33

3.3.1. Cretaceous Period 33
3.3.2. Tertiary Period 35
3.3.3. Quaternary Period 36
3.4. Hydrology of Dakhla Oasis Depression 38
3.4.1. Ground Water 38
3.4.2. Downstream Drainage Network 39
3.5. Climate of Dakhla Oasis Depression 41
3.5.1. Quaternary Paleo-climate 41
3.5.2. Modern climate 43
4. CHAPTER THREE: Holocene Cultures at the Dakhla Oasis, Egypt 46
4.1. Late Pleistocene Sites at the Western Desert (c. 129–11 ka BP) 46
4.2. Holocene Cultures at Dakhla Oasis (11 ka BP) 48
4.2.1. Masara Culture Unit (Epipaleolithic culture: c. 9200–8060 BP) 50
4.2.2. Bashendi Culture Unit (c. 7600–5200 BP) 57
4.2.3. Sheikh Muftah Culture Unit (Neolithic culture: c. 5050–3100 BP) 67
5. CHAPTER FOUR: Balat/North-1 Site: Sheikh Muftah Occupation at Balat 79
5.1. Location 79
5.2. Archeological Context of Balat/North-1 Site 83
5.2.1. Site Stratification 85
5.2.2. Areas of Occupancy and Campsites 87
5.2.3. Prominent Features 101
5.3. Material Culture 104
5.3.1. Lithic of Balat/North-1 105
5.3.2. Pottery: Types and Shapes 110
5.4. Subsistence 112
6. CHAPTER FIVE: Geo-archeological Study of Balat/North-1 Site 113
6.1. Overview 113
6.2. Geo-archeological Descriptions and Applied Analyses 114
6.2.1. Carbonate Content Measurement 116
6.2.2. Grain Size Analysis 118

6.2.3. Mineralogy and Geo-chemistry …… 123

6.3. Stratigraphic Correlation ……..... 133

7. CHAPTER SIX: Paleo-environmental Reconstruction of Sheikh Muftah Culture at Balat/North-1 Site …… 135

7.1. Geo-archeological Data ……..……..…….. 135

7.2. Bio-stratigraphical Data …….. 138

7.3. Paleo-climatic Impacts ……... 140

7.4. Archeological Data ……. 143

7.5. Results and Discussions ……. 144

8. SUMMARY AND CONCLUSIONS …….. 147

1) The Holocene Paleo-environment at the Dakhla Oasis and its Implications ……. 147

2) A Comprehensive Picture of the Sheikh Muftah Culture at the Dakhla Oasis …….. 150

3) The Debatable Presence of Sheikh Muftah at Balat ……... 151

4) New Perspectives on Sheikh Muftah Culture at Balat ……... 152

GLOSSARY …….. 156

BIBLIOGRAPHY ..…….. 163