

Overview of the Siwa Oasis Study in Egypt

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Abstract: The Siwa Oasis in the western desert of Egypt has attracted the attention of academic circles at home and abroad because of its long history, mysterious culture, and unique natural landscape. The research covers many fields such as history, anthropology, linguistics, environment and ecology, and economic development. The foreign research is thorough and comprehensive, and has many achievements on the historical status of Siwa, modern cultural conflict and change, language and society, ecological system and its sustainable development, while the domestic research is still superficial, mainly on the introduction of the humanistic style and historical overview. Through a comprehensive analysis of these research results, this study can have a more comprehensive understanding of the multiple values of Siwa and the problems faced by traditional culture represented by Siwa in the era of globalization.

Keywords: Egypt; Siwa Oasis; Overview

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1. Introduction

The Siwa Oasis, located in the western desert of Egypt, is a meeting place of Ancient Egyptian, Greco-Roman, and Berber cultures and is of great significance to the global cultural and natural heritage. As a unique case of multidisciplinary research, it has attracted extensive academic attention. Studies at home and abroad focus on the introduction of humanistic history and in-depth discussion of its historical position, cultural conflict, language and social identity, ecological system, and sustainable development challenges. In recent years, globalization and modernization have led to changes in the social and economic structure of Siwa, which has intensified the conflict between traditional culture and modern society and promoted the deepening of research. By integrating the results through an interdisciplinary framework, this study aims to comprehensively understand the complexity and diversity of Siwa Oases, provide a scientific basis for the conservation and development of cultural heritage, and ensure its sustainability. China-Egypt cooperation is crucial to the protection and sustainable development of Siwa Oasis. This study provides theoretical support and practical guidance to promote the protection and development

of this common heritage of mankind.

2. Overview of the research on Siwa Oasis in Egypt

The specialized research on Siwa Oasis has been carried out abroad for more than 100 years. In the past two decades, the research paradigms have diversified, involving cultural anthropology, linguistics, environment and ecology, economic development, and other fields, showing interdisciplinary potential. Foreign research achievements were abundant, but Arabic research was relatively insufficient. The early contributions were mainly from Hussein Ali Al-Rifai and Ahmed Fakhry^[1-2]. Globalization has encouraged European and American scholars to conduct in-depth field research. In contrast, domestic research started late and has a limited scope, but with the deepening of the Belt and Road Initiative and China-Egypt relations, it is expected that Chinese scholars will make new contributions in archaeological, ecological, economic, and social aspects through international cooperation and interdisciplinary research, and promote the development of global Siwa research.

2.1. Research design and sources of materials

To fully understand the research content and extent of Siwa at home and abroad, this study adopts the bibliometric method to systematically retrieve and analyze the research literature on Siwa Oasis at home and abroad. In China, using “Siwa” and “Siwa Oasis” as keywords, 15 valid literatures were retrieved from CNKI and other databases, covering a variety of types, but with limited academic influence. A total of 130 valid articles were retrieved from international databases such as the Web of Science Social Science Citation Index (SSCI), covering ecology, zoology, geology, and other fields. The studies were mainly from Egypt, Saudi Arabia, and the United States, followed by the United Kingdom, Italy, China, and France. Chinese scholars have published several Siwa research papers in cooperation with foreign scholars. Through the Arabic Dissertation database, Google Scholar, and other databases, 80 Arabic-related research papers have been obtained, involving history, archaeology, and geography, among which ecological economy and tourism have received the most attention.

2.2. Review of existing research results

The Siwa Oasis, as a religious and cultural center with a long history, is famous for historical events such as Alexander the Great’s oracle appeal and the battle of King Cambyses II of Persia. The Temple of Amun, an important holy site in ancient Egypt and Greco-Roman times, has attracted many believers and historical figures and now provides valuable remains for archaeological research. This paper reviews the research on Siwa at home and abroad, focusing on its achievements and progress in the aspects of history, culture, society, and language.

2.3. Domestic research status of Siwa Oasis

Domestic research on Siwa initially relied on travel notes, such as works by Jiang Yiyuan, Sun Yanqing, CAI Tongyu, and Zhang Lanfang, which provided preliminary information on the humanities and history of the Siwa Oasis^[3-5]. Subsequently, Zou Lanfang, He Chaoyong, Wang Shichao, and other scholars have deepened their understanding through literary works and historical records^[6-8]. However, domestic research on the Siwa language, women, literature, ecology, and other fields is still insufficient. With the development of tourism and international cooperation, future research is expected to be more in-depth and systematic. It is expected that more scholars will participate to fill the gaps and contribute Chinese wisdom to the protection and inheritance of Siwa’s cultural heritage.

2.4. Foreign research status of Siwa Oasis

Compared with China, foreign academic circles have rich research results on the Siwa Oasis, covering the fields of archaeology, history, sociology, anthropology, architecture, linguistics, ecology, religion, economic development, and so on. However, there are few literature in Arabic. This paper will systematically review the foreign research on Siwa, focusing on the historical, social, and linguistic achievements, in order to reveal the main contributions of foreign research and provide a reference for domestic research.

2.4.1. Important research on Siwa history and society

In the study of Siwa history and society, a “Siwa manuscript”, which has never been made public, is of great importance. The manuscript, handed down by the Tayyib Muslim Umar family, is one of the earliest and most important Siwa documents, detailing the development of life, traditional customs, resource allocation, and tribal laws in Siwa. The manuscript was copied and continued by Tayyib Muslim Umar and is now a family heirloom. It is regarded as the most authentic and valuable literature on Siwa. In addition, his grandchildren have a book called *History of Life in Siwa: From the Islamic Conquest to the Islamic Calendar 1327*.

The Siwa Oasis has attracted the attention of many Western travelers since its early days. In 2022, the book *Siwa: The Works of English Travelers 1792–1920*, translated by two Egyptian scholars, further enriched the academic resources in this field by combining the experiences of six early English travelers. Western travelers, such as Arthur Silva White, C.V.B. Stanley, Dun and Thomas Ingram, Robin Maugham, The travelogues of Cassandra Vivian, and others constitute important historical sources on the life of the early Siwa people^[9–13]. Among them, Charles Belgrave’s book *Siwa: The Oasis of Jupiter Amon* is recognized as the authoritative document^[14].

Egypt’s early archaeological research on Siwa laid a solid foundation for related research in the Arab world. Hussein Ali Al-Rifai, a famous scholar in the Kingdom of Egypt, gave a detailed introduction to the history of Egyptization during the reign of Muhammad Ali Pasha and King Fuad and provided valuable data on the geography, economy, and society of Siwa^[15]. His governance suggestions promoted the modernization of Siwa. Professor Refaat El Gohary’s *Desert Paradise: Siwa or the Amun Oasis* became an encyclopedia of Siwa research, which recorded medical prescriptions and local governance information^[16]. Abdul Latif Waked made a comprehensive study of Siwa, with special attention to social conditions under Italian occupation^[17]. Ahmed Fakhry, the “Monk of the desert”, is a master of Egyptian archaeology, who gave a detailed description of the archaeological monuments and history of Siwa^[18]. Another research probed into the contemporary life of Siwa and traced the history of Siwa from the Paleolithic Age to the present, starting from the investigation of desert and oasis in Egypt, and finally recorded the ancient monuments of oasis and reviewed the past and present of Siwa^[19]. His research is a common reference for all Siwa researchers. Abdul Aziz Al-Damiri, Director of the Bureau of Antiquities and head of the archaeological team in Matrusiwa, Egypt, inheriting the mantle of his predecessors, re-excavated Siwa’s forgotten historical and cultural monuments, collected important inscriptions and manuscripts and provided key documents for the study of Siwa^[20–21].

2.4.2. Important research on Siwa folk culture

Research on folk culture is essential for a comprehensive understanding of the history and current situation of Siwa. The Siwa Oasis is rich in folk culture, covering music and dance, traditional customs, folklore, handicrafts, and festival activities. An in-depth study of this culture not only helps to preserve traditions and memories but also

reveals the values, social structure, and cultural changes of Siwa society.

Fathy Malim and Mustafa Shaaban Jad, both scholars of Egyptian folklore, are authoritative figures in the study of Siwa folklore. Malim explores Siwa's history, language, customs, magical practices, and social structure in-depth, revealing its deep cultural significance, and emphasizing the intersection of tradition and modernity, as well as the role of women in the inheritance of folk customs ^[22-23]. Judd reviewed Siwa folk literature and introduced in detail the water spring, sand therapy, reconciliation celebration, and marriage culture. In addition, his records of Siwa folk stories and Suzan Al-Saeed Youssef's records of festival activities are the most comprehensive records of Siwa folk literature so far ^[24].

German scholar Brigitte Schaefer systematically summarized the production and performance of Siwa instruments and the role of music in dance for the first time. The book was later translated into Arabic and became an important work in Siwa music research ^[25]. In addition, Hossam Mohsab studied the costumes, dance steps, and scores of the Siwa Zagara dance, and Grivetti translated the oral songs of the Siwa Holy Festival, which showed the historical epic of Siwa ^[26]. American scholar Margaret M. Vale described the symbolic significance and social status implication of Siwa jewelry design and traditional costumes through illustrations and affirmed their role in the life and celebrations of the Siwa people ^[27].

2.4.3. Important research on the Siwa language

For the early studies of the Siwa language, French scholar Catherine Miller quoted Werner Vycihl's account that the description of the Siwa language first originated from traveler records in the 19th century. Three Siwa dictionaries were published in Arabic. In addition, various scholars described Siwa grammar. Visier's *Language Sketch of Siwa* contains an introduction to the history of Siwa and a review and in-depth study of Laster's ^[28]. Walker also provided important early literature on the grammar of Siwa.

The French scholar Lameen Souag focused on the study of linguistic contact in Siwa Berber. He pointed out that the Siwa Berber language contains Arabic grammatical elements, which proved that Arabs settled in Siwa and the existence of Arabic dialects in Siwa, reflecting the close relationship between the two societies ^[29]. Later, based on the field investigation, he recorded the grammar of Siwa Berber in detail, discussed the internal relationship between borrowed words and Berber and the influence of immigrants, and analyzed the influence of Arabic on the grammar of Siwa Berber; Souag also proposed that Siwa Berber has two unique middle vowels /e/ and /o/, and most of its vowels are secondary development, which may be variants of Algerian or Moroccan Berber ^[30].

Valentina Schiattarella, an Italian researcher, has been prolific in the field of Siwa Berber, publishing 11 related articles. Using the recording corpus collected in Siwa, she systematically studied several grammatical points of Siwa Berber, such as clauses, suffixes of -a, negative forms, the role of preposition n in noun phrases, noun stress positions, and the function of personal pronouns. In her doctoral thesis, "Siwa Berber: In Text, Syntax and Grammar", she provided a comprehensive and detailed analysis of the basic grammar, sentences, and text of Siwa Berber ^[31]. In addition, she collected and analyzed 19 Siwa and English texts, including narratives, stories, and riddles. Morphological and syntactic annotation and translation of five of the texts improved readers' understanding of the structure of Siwa Berber ^[32]. Schiataera also transcribed and analyzed a 756-character unpublished Siwa folk tale and an in-depth exploration of its narrative features and structure ^[33].

Valentina Serreli, a researcher at the University of Bayreute in Italy, focuses on language contact and sociolinguism in Siwa and has collaborated with Schiatarella to publish two related articles ^[34-35]. By analyzing the interview data, Serreli found that globalization intensified the two-way mobility of Siwa Oasis, leading to

changes in language ecology, and Siwa people turned from monolingualism to bilingualism, accompanied by identity ambiguity and multiple sense of belonging ^[36]. In response to this phenomenon of ambiguous identity, she further pointed out that language has become a social marker of Siwa, and the Siwa language and Egyptian dialect are in sharp contrast, representing conservative and progressive respectively ^[37]. Globalization has affected the social and linguistic status of Siwa Berber and Arabic, but Siwa has slowed down Arabization in isolation and retained its native Siwa language as a symbol of identity ^[38]. Siwa people are open to Arabic loan words, seeing lexical changes as inevitable for social change. Siwa people see the Egyptian dialect as a language of wider communication, a sign of education and urbanization. Its popularity among young people is growing, but it is criticized by older Siwa speakers ^[39]. There are three ethnic linguistic groups in Siwa: Siwa Berber, Egyptian dialect, and Bedouin. The identity within the group is based on origin, ethnicity, language, and tradition, and the identity is defined through language perception and ideology ^[40].

2.4.4. Important research on other aspects of Siwa

With the progress of globalization, Siwa, a relatively conservative place, has gradually received more attention, and related studies have become increasingly abundant, especially those on the ecological environment of Siwa Oasis, traditional medicine, agricultural development, architecture, and economics.

Agriculture in Siwa relies on groundwater and oasis springs, forming fertile agricultural areas that support the growth of a wide range of crops. Al-Baraa El-Saied, a researcher at Al-Azhar University in Egypt, recorded 154 plant species in 132 locations of the Siwa Oasis, among which 52 species were cultivated, and introduced its agroecosystem experimentally ^[41]. Agricultural water use is the basis of agricultural development. The observation of groundwater quality in Siwa Oasis and the management of groundwater and soil salinization have become hot topics for scholars ^[42-43]. Therefore, in 2020, the Egyptian government invested 200 million Egyptian pounds to develop wells and water supply and drainage systems in Siwa to solve the problems of salinity and agricultural drainage. In addition, the issue of land degradation and salinization in Siwa Oasis is also the focus of research.

In the field of architecture, as the traditional building material of Siwa Oasis, “Karshifu stone” is composed of salt, clay, palm trees, and olive trees. Its unique salt construction technology shapes the architectural culture of Siwa and is used to restore the ancient city of Shali. Rovero et al., have made an in-depth analysis of the design and construction of the ancient city of Shali and its special construction technology, which is one of the highly academic studies on Siwa architecture ^[44]. In addition, Calogero Montalbano et al. re-evaluated Siwa settlement and architecture from the perspective of architecture, carried out intervention on building materials and techniques for the restoration of the old city of Shali and Karshev, and put forward the economic assessment of the development plan of Siwa Oasis, which is a very comprehensive and important work on the salt architecture of Siwa Oasis.

Siwa is rich in eco-tourism resources, for which the Egyptian government has made significant efforts. Since 2002, the government has adopted several policies to optimize the development of Siwa Oasis, including naming it “Siwa Nature Reserve” (Resolution 1219 of 2002), implementing ecological and environmental protection policies, and investing 3.4 billion Egyptian pounds in paving roads (SADS development Strategy of 2007). Despite its great potential, the ecological protection of the Siwa Oasis has also become an important issue. Alhaddad et al. used descriptive and analytical methods to discuss Siwa’s tourism potential, development obstacles, and decline factors and put forward the vision of developing it into an international ecotourism destination ^[45]. Scholars such as Noha Ibrahim Khalil, an associate professor at Matrouh University in Egypt, suggested developing a tourism

model of the Siwa agricultural heritage system, combining agricultural products to promote gastronomic tourism to promote sustainable development ^[46].

3. Research methods and case analysis

The author summarizes the research on Siwa and points out that the early research focused on the sorting of historical documents, which is still an important method. Subsequently, scholars became interested in the Siwa language and culture and collected primary data through field investigation, interview, observation, and case study, combined with text analysis and recording corpus, laying the foundation for corpus construction. With the modernization of Siwa, research has turned to sustainable development, and the fields of ecological environment, agriculture, architecture, and so on have attracted attention. Quantitative research methods such as surveys, experiments, digital technology, and measurement have been widely used. In general, Siwa research uses a variety of methods and combines them, and a few key methods are illustrated below.

3.1. Literature research method

Literature research is a systematic, explicit, and reproducible method that is used to identify, evaluate, and synthesize the existing completed and documented work of researchers, scholars, and practitioners ^[47]. This approach is widely welcomed as it facilitates a comprehensive understanding of the research context, fills gaps, and drives theoretical and methodological innovation. In the historical research of Siwa, Abdul Aziz Al-Damiri has the most obvious method of literature research. He has thoroughly studied Arabic manuscripts from the pharaoh to the Hellenistic and Roman times 400 years ago and used cultural history theory to reveal the importance of the Siwa civilization, which has become the core work in this field.

3.2. Field research

As a key part of ethnographic research, fieldwork, through long-term field participation, can deeply understand social phenomena from the perspective of research objects, collect detailed data, reveal the complexity of human behavior and cultural customs, and provide valuable resources for the analysis and preservation of language and folk culture. Suzan Al-Saeed Youssef, a female scholar of Egyptian folklore, made an in-depth study of the popular celebrations in Siwa through fieldwork ^[48]. She described a variety of celebrations using the theory of narrative science and systematically organized folk stories, proverbs, sayings, songs, dances, and so on. It emphasizes the spiritual belief and social consciousness of the Siwa people and shows the importance and value of fieldwork in Siwa research.

3.3. Case study method

Focusing on individual or group behaviors, case study methods allow researchers to explore complex phenomena in the natural environment, gain a deeper understanding of the diversity and details of a given context, and provide insights for theory development and practice improvement ^[49]. Valentina Serreli, for example, used this method to conduct a mapping experiment on middle school students in Siwa Oasis from the perspective of perceptual dialectics to explore their perception of Egyptian language boundaries ^[50]. This study deeply analyzed language perception and cognition, highlighting the application value of the case study method in linguistic research.

3.4. Discourse analysis method

Discourse analysis studies the use of language in a society, focusing on the use of language in a specific context, language structure, pragmatic phenomena, and the influence of social background. It aims to reveal the role of social culture on language, analyze power relations, identity, and interaction between speakers, and understand the intention behind speech. Scholar Lameen Souag conducted an in-depth study on the contact between Siwa Berber and Arabic using the language contact theory and discourse analysis method. His doctoral thesis also explored in detail the impact of language contact on the grammar of Siwa Berber and conducted a comparative study ^[51]. He created a small corpus of the Siwa language on his personal website, which contains many sentences and daily expressions of the Siwa language he analyzed, which provides valuable resources for discourse analysis of the Siwa language.

3.5. Feminist sociology

Siwa women play a key role in preserving and perpetuating the unique language and culture of Siwa. They pass on knowledge of the Berber language and culture and promote cultural identity. Scholars often choose women as subjects in their interview materials to highlight their importance in language and culture transmission. Egyptian folklife scholar Fathy Malim used gender theory to describe the role of Siwa women in different historical stages and occasions, showing their resilience and adaptability, as well as their ability to balance tradition and modernity ^[52]. Siwa women are involved in agriculture ^[52] and handicraft production, and their skills support family income while preserving local cultural identity. In-depth research on the roles and contributions of Siwa women in different fields will help to fully understand the gender roles, power relations, and the importance and influence of women in Siwa society.

4. Analysis of research challenges and prospects

Through the research review, the author finds that there are significant differences in the breadth and depth of Siwa research at home and abroad. A multi-disciplinary academic system covering archaeology, history, ecology, and other fields has been formed abroad, which provides insights into the conservation and sustainable development of Siwa. Siwa Oasis is still the focus of international research. In contrast, domestic research started late, mainly focused on history and culture, mostly travelogue-style records, and there was a large space for expansion. Therefore, it is urgent to strengthen interdisciplinary and comprehensive research to fully reveal the characteristics of Siwa.

However, domestic research on Siwa faces multiple obstacles, such as remote location, limited popularity, lack of resources, insufficient funding, language barriers, and cultural differences. However, if these difficulties can be overcome, there is still a broad space for Chinese scholars to expand and deepen their research on Siwa Oasis. The following steps can be taken to achieve this.

4.1. Strengthen interdisciplinary collaborative research

Strengthening interdisciplinary cooperation is crucial for Siwa Oasis research. Researchers should encourage the participation of history, archaeology, ecology, and other disciplines to form interdisciplinary research paradigms, such as combining history to explore cultural inheritance and using environmental technology to assist archaeology. At the same time, the impact of folk culture and tourism should be studied to explore sustainable tourism models. To this end, it is necessary to hold regular seminars, share results, jointly declare projects, and

set up field investigation teams to comprehensively reveal the characteristics of Siwa from an interdisciplinary perspective and provide a scientific basis for sustainable development.

4.2. In-depth field investigation and research

Field visits are the key to a deeper understanding of Siwa Oasis. It is necessary to cultivate Siwa's language talents and deepen understanding through long-term fieldwork and ethnographic research. Fieldwork should pay attention to the collection of historical and cultural materials and oral history materials, and work closely with the local area. A variety of methods should be used to ensure that the data are diverse, authentic, and complete, to provide support for follow-up research.

4.3. In-depth excavation and collation of historical documents

The in-depth excavation and collation of historical documents are of indispensable importance to the exploration of Siwa Oasis. It is necessary for researchers to comprehensively collect ancient documents, travel notes, and local chronicles, rationally use traditional and digital resources, attach importance to the translation and collation of multi-language documents, and reveal the historical status and changes of Siwa. At the same time, researchers need to collect oral history, supplement literature data, and enhance the depth and breadth of research. Finally, the literature was systematically sorted out and classified to ensure organization and searchability and to provide rich historical data support for follow-up research.

4.4. Strengthen international academic cooperation and exchanges

Strengthening international academic cooperation and exchanges can promote the research of Siwa Oasis. Researchers should build a framework for international academic cooperation, sign cooperation agreements with productive universities and research institutions, and clarify the objectives, contents, and methods of cooperation. Researchers should also encourage scholars to participate in international academic conferences and seminars to broaden their horizons and establish academic contacts. In addition, the exchange of visiting scholars is also an important way to promote academic integration and collision and to attract the attention and participation of international scholars.

4.5. Establish a research database of Siwa Oasis

The establishment of the Siwa Oasis Research database will promote academic exchanges, resource sharing, and further development of research. The database should comprehensively and accurately collect the research results, literature, pictures, videos, and other materials related to the Siwa Oasis, to provide a convenient information query platform for scholars. At the same time, official websites and social media accounts should be established to publish research trends, share academic views, attract the attention and participation of more scholars, and expand the research influence.

As the internationalization of Chinese academia accelerates and interest in Middle East studies grows, the Siwa Oasis is bound to become a research hotspot. Chinese scholars will use the advantages of interdisciplinary research, field visits, and literature mining to reveal the history, ecology, social culture, and sustainable development path of Siwa, promote academic exchanges and cooperation between China and Egypt, and promote a comprehensive understanding of this unique region.

5. Conclusion

As a treasure of Egypt, the Siwa Oasis is rich in history, culture, and natural ecological value, and is the wealth of all mankind. An in-depth study of Siwa can reveal its historical evolution and ecological characteristics, and deepen the understanding of the relationship between man and nature, history and modern times. There is a gap between domestic and foreign research. With the advantages of interdisciplinary, field investigation and literature mining, Chinese scholars are expected to reveal the history, ecology, social culture, and sustainable development path of Siwa, promote academic exchanges between China and Egypt, and enhance the comprehensive understanding of Siwa.

Disclosure statement

The authors declare no conflict of interest.

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