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By: **Mohamed Faik**

Risk management in heritage sites: Case study Kharga oasis in Egypt.

Prepared Under the supervision of Professors

Mme. Laure Pantalacci, Professor at Lyon Lumière 2 University.

Mme. Nagoua Zoair, Professor at Fayoum University.

Mr. Wahed Attia Omran Assistant Professor at Fayoum University.

Before a jury composed of

Mr. Frédéric COLIN, Professor at the University of Strasbourg. President.

Mrs. Laure Pantalacci, Professor at Lumière Lyon 2 University. Supervisor.

Mrs. Salima Ikram, Professor at the American University of Cairo. Rapporteur.

Mrs. Corinna Rossi, Associate professor at Polytechnic of Milan. Rapporteur.

Mrs. Nagoua Zoair, Professor at the University of Fayoum. Supervisor.

Mr. Lilian Postel, Lecturer at Lumière Lyon 2 University. Examiner.

Risk management in heritage sites: a case study Kharga oasis in Egypt.

Abstract

Mohamed Faik

Several cultural heritage sites are suffering from different types of risks. These risks can be divided into two types, the natural effects, and the human-made effects. The first natural risks can be also sub-divided into two categories: catastrophic and sudden occurrences, such as a flood or an earthquake, which have an immediate impact on heritage sites, and continuous threats with cumulative and slow effects, such as erosion, material decay, the impact of weathering processes generally, encroachment of sand dunes, stability of foundation beds and shallow groundwater seepage. The second category, anthropogenic risks result from a number of different human activities, including development in general and tourism in particular, inappropriate management, lack of maintenance, neglect, and pollution in addition to treasures hunters and robbers. The heritage sites are affected also by uncontrolled development and urbanization, a loss of local and traditional knowledge, and a lack of management systems for the sites.

In Egypt, during the chaos that followed the revolution of 2011, mass looting of the museums and vandalism to the heritage sites became commonplace. The Egyptian museum in El Tahrir square (central Cairo) was ransacked and over 18 objects were looted and over 70 items were destroyed. Mallawi museum, one of the most important provincial museums in Egypt, was also devastated and ransacked in 2013, more than 1041 items were stolen in addition to the destroyed objects. In 2014, a fire (another form of risk) damaged the Islamic museum in Cairo and ruined most of its historical proprieties. In addition to the museums, many of the heritage sites across Egypt have been widely destroyed during the last 10 years by a different form of risks; Al-Hammam is a Graeco-Roman site located on the Alexandria-Matruh highway. The site has been attacked twice in 2014; the first time, it was invaded by thieves who drove a bulldozer and ruined largely the historical structure and the second time an armed gang invaded the site to steal the antiquities of the site. Dahshour is another Pharaonic heritage site located to the south of Memphis necropolis. This heritage site was endangered by another human risk represented by the encroachment of the local villagers toward the ancient cemetery to build a new cemetery for their dead nearly upon the ancient one. Many other Islamic heritage sites in old Cairo became waste dumps or were destructed to build a new structure upon them.

Risk analysis and risk management techniques have been become a growing global concern at least during the three last decades due to the continuous threat of heritage from both natural and man-made causes. In Egypt UNESCO obviously tried to help through rescue campaigns, such as Nubian temples - that suffered from the attack of the Nile flood especially after building of the High Dam – which were transferred to safer areas away from the flood. However, the attempts to rescue the cultural heritage sites are still very limited. Consequently, the rest of the endangered heritage sites are in need to apply a developed risk management plan to protect our heritage and prevent the destruction of our identities.

The scope and limitation of the study

The Kharga oasis hosts a mixture of heritage sites representing almost all episodes of ancient Egyptian history, starting from the pre-historic stone inscriptions in Gabel El-Tir, through Pharaonic to the late Egyptian temple of Hibis- This temple was restored several times in the last century and suffered from a locally rising water table - which was added to during the Greco-Roman period. Moreover, along the Kharga Oasis, many of the Roman fortified settlements are situated strategically on hilltop sites such as Ain el Gib, El-Nadura, El-Ghueita, El-Zaiyan and Qasr Dush, which incorporate temples and ruins of ancient large communities of people and/or garrison towns, and El Bagawat which contains 263 mudbrick chapels with Coptic murals, including the Chapel of Peace with images of Adam and Eve. This site might be considered the oldest major Christian cemetery in the world, dating back to the 4th century AD.

The study will take Kharga oasis as a case study to identify the risks which threaten the outstanding universal value of its heritage sites. Then, the study will try to present comprehensive risk management plan to the identified risks. Despite the existence of heritage sites exceeding seventy sites in the oasis dating to different periods of Egyptian history, the study will address only 28 heritage sites, which are considered the most significant ones in the oasis. They will be divided into three sectors; the northern one which includes ten sites extend from Ain el- Gib from the northern side to Ain Dabashiya in the south, and from el Deir in the eastern side to the Ain Amur to the west. The second sector (the central) extends longitudinally from Ain Saaf in the north to the Qasr el Zaiyan in the south (30 km long), and contain 13 heritage sites. The last sector is the southern one which include five sites from Shams el Din in the north to Qasr Baris to the south.

Problem statement

Unfortunately, the last few years witnessed the destruction of more heritage sites in the oasis “than in the rest of oasis history”. Most of the excavated sites in the oasis are left open without conservation works and were being exposed to natural and cultural (human) hazards. The absence of resident sentries who could be responsible for the safeguarding of heritage and archaeologist to carry on continuous inventory and documentation work is another gap in the cultural heritage management at most of the heritage sites in Kharga oasis. The lack of technically mapped and visualized boundaries, and the absence of a clear strategy for a defined buffer zone or zoning regulation of the property, represents further threats to the sites’ integrity. Thus, these cultural sites are in urgent need for a risk management plan that preserves this important heritage from loss. After the Egyptian revolution in 2011, the illegal excavation and the antiquities smuggling increased dramatically in the oasis because of the deterioration of the economic situation, in addition to the high demand for antiquities in the western countries.

On the theoretical and academic side, plentiful references (classical and recent) have been made available about the description of the heritage sites in the oasis and the explanation of their historical remains in detail. Moreover, a few publications discussed some of the risks (natural and human) in certain heritage sites in the oasis. However, the few references which addressed these risks and present a comprehensive management plan by identifying these

risks, analysing and evaluating them and lastly proposing some solutions to treat them are still insufficient.

It is, therefore, hoped that this study will be a positive contribution to make a functional risk management plan to understand the state of the heritage sites in Kharga oasis and to be a proposed action plan to the responsible and the decision-makers to help them in protecting our heritage and keep it to the next generations.

Aims and objectives of the study

The present research topic was selected to be attempting to rescue the important cultural heritage sites in Kharga oasis by some points:

- Design a risk management methodology that will enable the systematic identification of disturbances and threats to the cultural sites in the oasis.

- Try to document and investigate all the changes and the impacts that took place over time in the archaeological sites of the oasis and identify those risks which affected the historical remains.

- Assess the impact of the risks and the vulnerability of the monuments and other features of the sites.

- Analyse the magnitude of risk, which would then enable site managers and concerned authorities to plan a more in-depth assessment for the most significant monuments at risk.

- Provide a systematic approach for heritage managers to assess and eventually manage all different kinds of risk in the oasis.

- Prepare the study to assist researchers, stakeholders and other professionals in contributing to the preservation of the other cultural heritage sites in Egypt.

- Try to develop an institutional approach and define a strategy collaboratively with local authorities and staff in the oasis.

- The study will attempt to point out the potential threats and challenges to the heritage sites in Kharga oasis and to build a theoretical framework for future management and conservation mechanisms of the heritage resource.

- Different suggested solution (Mechanical, Biological, Physical, chemical) will be proposed to deal with each risk, in order to give the decision-makers and the responsables in the oasis the possibility to choose the appropriate method according to the available resources.

The methodology of the study

This case study of managing risks facing cultural heritage sites in Kharga oasis used different types of methods such as documentation, interviews with managers of heritage sites in Kharga oasis and designing an observation checklist to identify the main risks which threaten the historical sites in the oasis. A preliminary investigation of the literature reviews and the related articles and all the available sources collected a wealth of information about the topic and the branches of the study (the heritage sites, the risks, and their categorization, the risk

management process and the case study). The study will apply the Risk Management Australian / New Zealand Standard. This standard has been applied before by CCI–ICN and ICCROM, as it is one of the most well-known and used standards in the risk management domain. This standard divides the risk management process into five stages: contextualize, identify the risks, analyse, evaluate and finally treat these risks. The second step after collecting the related literature was to visit the oasis to survey and investigate the heritage sites in the oasis, and to document the state of the sites as well as the risks and their impact on the historical buildings by using a photographic survey¹, with full and proper written records using the checklist to record all the individual elements; measures, materials, state of conservation, safeguarding measures, the excavation works, as well as the human and the natural risk. This field trip had been organized in April 2017. About 24 sites out of the total 28 sites concerned in the study were visited. It was not possible to visit the other sites because of the difficulty of obtaining security approvals; those sites were Umm Dabadib, Ain Amur, Ain Saaf, Mustafa Kashef. However, information about the risks in these sites have been noted depending on interviews with the officials of the Ministry of Antiquities (MoA) in the oasis, and several photos indicating the effects of these risks have been obtained from the antiquities inspectors as well. After identifying the natural and the human risks which threaten the heritage sites in the oasis, the study will analyse them to be able to determine which risks need a rapid intervention to stop or to mitigate their impact on the heritage sites, and which ones can be accepted for the time being. In order to do that, the study will depend on the quantitative and qualitative analysis of the identified risks. The former will analyze the risks to obtain numerical data, which in turn can be used to decide which risks are the most frequent and threaten the heritage sites in the oasis. On the other hand, the latter analysis model will be used to assess and measure the probability and the severity of these risks using the *ABC* style which was designed and applied by the Canadian Conservation Institute. Finally, several similar cases of heritage sites around the world which have been threatened by the same risks are studied to identify the methods which were used by these countries to treat similar risks, and then to test the possibility of applying or not these same suggested solutions in Egypt, and then propose the applicable solutions among them.

Structure of the study

The research is presented in this thesis in 3 parts. Each part includes eight chapters that are presented in the following manner:

Part I: (Concept, Tools and Methods) consists of three chapter.

Chapter one will focus on presenting the different definitions of heritage, the importance of heritage for societies, its role in determining the social entities and linking humans with their history and culture. After that, it will present the different types of heritage, and how we can classify it as either human and natural heritage, or as tangible and intangible. Following that, the role of UNESCO in preserving international heritage and conserving it to the next generations will be recalled. Then i will explain the procedures which required enrolling any site in the list of the World Heritage Sites. Finally, as the case of this study is located in Egypt, so this chapter will present the main heritage sites in Egypt which were already enrolled by UNESCO as World Heritage Sites. Moreover, we will present the sites that were nominated by the Egyptian government to be added into the list, but they are still in the Tentative List of World Heritage Sites of the UNESCO.

Chapter two will present the different definitions of the risk. Followed by the classification of the risks and categorize them to human risk and natural ones. Then the natural risks to catastrophic ones such as (flood, fire, earthquake....) or accumulative risk such as (winds erosion, biological degradation, metal corrosion....). Then the study will determine the way to measure the magnitude of the risk by identifying its probability of occurrence as well as its impact on the heritage assets. By this way, the risks could be classified from disaster to very low risks. The last part of the chapter will discuss the results of important statistic reports announced by UNESCO to indicate the numbers of the world heritage sites in danger by the last years. Different examples of these risks in Egypt will be presented.

Chapter three will define the concept of risk management and the aim of this process, whatever the domain. The study adopted the Australian and New Zealand standard to risk management which is divided into five stages. The context is the first step in managing the risk. This stage attempts to gather as much information as possible about the environment of the affected properties. The following stage consists in identifying the risks which threaten the historical value of the monuments. After that, the third step is to analyze these risks and to identify the probability and the repetition of the risks, as well as their severity, to determine the final magnitude of the identified risks. The next step is to evaluate these risks to define which one is catastrophic, extreme, high, medium or low. This evaluation depends of course on the results of the analysis steps and the magnitude of each risk (MR). Finally, the last stage is proposing some solutions and suggesting some procedures to deal with the risks.

Part II: Kharga oasis, the main sites and their risks consists of two chapters.

Chapter four will present the context of the case study. It will describe the historical background of Kharga oasis and will present an archaeological explanation to the selected heritage sites in the oasis (28 sites). These sites will be organized in this chapter in accordance with their geographic location. Accordingly, the study will display firstly the northern sites (10 sites), followed by the central sites (13 sites). Then the southern sites (5 sites). The historical and archaeological description in the study depends on the descriptions of the ancient travellers who visited the oasis since the beginning of the nineteenth century and described its monuments, in addition to the reports of the modern archaeologists who worked recently on the sites of Kharga oasis. The comparison between the ancient and the contemporary descriptions gave the opportunity to observe the changes and the destructions that happened to the monuments of the oasis.

Chapter five will deal with the main risks which threaten the buildings of these sites. The risks were classified under two types: human and natural risks. Under each category, the risks will be arranged according to their effect upon the monuments of the site. Accordingly, the most threatening risks will be sorted firstly, then the less effective ones. These risks have been noted according to the field assessment study to most of the heritage sites in Kharga oasis. They were recorded during the visit of the oasis which was carried out in April and May 2017.

Part III: (Results) Risks Analysis, Evaluation and Solutions. This part contains three chapters.

Chapter six will address the analysis of the identified risks. The study will depend on the quantitative analysis, to know which risks repeated most often and threaten many heritage

sites. Accordingly, the next phase will analyse these risks qualitatively to measure their probability and severity, using the *ABC* style.

Chapter seven will evaluate the risk analysed in the sixth chapter, to compare the magnitude of all the identified risks and determine which ones are in need of critical intervention to treat them and which ones are still in the acceptable zone. The evaluation process depended on the magnitude of each risk, which was calculated by the qualitative analysis in the previous chapter. The assessment of the risks ranged from catastrophic to low impact risks.

Chapter eight will be the last chapter. The study will present in this chapter the suggested solution to treat the risks. It will begin firstly with the natural risks and put them in descending order, and then will turn to the human risks in the same order (according to their magnitude). The treatment plan tries to deal with these risks which threaten each layer around the historical assets (region, site, building and room). In each layer, the study attempts to propose all the preventive actions to prevent or at least to decrease the impact of the risks. Moreover, other reactive measures were suggested to deal with those risks that have already affected the archaeological remains. In addition to the preventive actions and the reactive measures, the study will suggest other cognitive and intellectual actions to increase the knowledge and the awareness of the heritage value among the local communities; and to raise their sense of responsibility to preserve their heritage and keep it for the next generations.

The conclusion summarizes the main ideas running throughout this thesis. Several recommendations are put forward for consideration and implementation.