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Touristic Rehabilitation of Archaeological Sites in Syria
- The Aga Khan Foundation Experience between the Past and the Future

Relatório de Estágio em Arqueologia e Território, em Arqueogeografia, orientada pela Professora Doutora Maria da Conceição Lopes, apresentada ao Departamento de História, Estudos Europeus, Arqueologia e Artes da Faculdade de Letras da Universidade de Coimbra.

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Resumo

A reabilitação turística de sítios arqueológicos é um processo muito importante, e as aplicações práticas de tais processos são amplamente comuns. No entanto, os estudos teóricos neste campo, particularmente em contexto pós-conflito, continuam a ser raros.

Esta investigação tem como objetivo discutir os parâmetros teóricos do processo de reabilitação turística de sítios arqueológicos, assim como a sua importância excepcional na proteção de sítios arqueológicos, suportando a economia dos países e aumentando o padrão de vida dos seus habitantes; para além de desenvolver padrões básicos que determinam o sucesso da sua implementação. Experiências prévias em termos de reabilitação turística de sítios arqueológicos pré-conflito na Síria, em particular a experiência da Fundação Acha Khan, nas três cidadelas islâmicas (Aleppo – Masyaf – Salah Eddin) aqui estudadas, juntamente com as principais vantagens e desvantagens.

Finalmente, estas experiências foram avaliadas com base em padrões de sucesso de gestão e reabilitação turística, dando aso à produção de um número de recomendações adequadas. O objetivo destas recomendações é criar um modelo que facilite o sucesso da implementação de qualquer reabilitação turística de sítios arqueológicas pós-guerra no futuro.

Uma das conclusões centrais desta investigação foi a necessidade de foco na dimensão humana da reabilitação turística como prioridade, particularmente no período pós-guerra, e quais as melhores maneiras de conseguir atingir esse objetivo.

Palavras-chave:

Reabilitação turística - Reconstrução pós-guerra - Sítios Patrimônios ameaçados - AKTC - Programa de Cidades Históricas – Síria

Abstract

Touristic rehabilitation of archaeological sites is a very important process and the practical applications of such process are widely common. However, theoretical studies in this field, particularly in the context of post-conflict, are still quite rare

This research aims to discuss the theoretical frameworks for the process of touristic rehabilitation of archaeological sites, its exceptional importance in protecting archaeological sites, supporting the economy of countries, and raising the standard of living of their inhabitants, in addition to developing basic standards that determine the success of its implementation. Previous experiences in touristic rehabilitation of archaeological sites in pre-conflict Syria, particularly the Agha Khan Foundation experience, in three Islamic citadels(Aleppo - Masyaf- Salah Eddin), were studied, along with their most prominent pros and cons.

Finally, these experiences were evaluated based on the standards of success of the management and touristic rehabilitation process, and a number of recommendations were accordingly produced.

The aim of these recommendations was to create a model that facilitates the implementation success of any post-conflict touristic rehabilitation of archaeological sites in the future, in Syria, or anywhere else. One of the central conclusions of this research was the great need to focus on the human dimension of the touristic rehabilitation process as a priority, particularly in the post-war period, and ways of achieving that.

Keywords:

Touristic rehabilitation - Post-war reconstruction - Endangered heritage sites - AKTC - Historic Cities Programme - Syria

INDEX

PART I - PREFACE TO TOURISTIC REHABILITATION

The first chapter of this section will discuss the importance of archaeological sites and historical buildings, their great value locally and internationally, and the need to preserve them continuously due to the various dangers they face, in peacetime and wartime. And the theoretical framework will be discussed in general, to deal optimally with historical sites of all kinds. In this regard, we must first define the general concept of historic sites and heritage buildings, these concepts partially differ from one country to another, and what is agreed upon by international organizations and covenants, and the most important international conventions that defined historic buildings and ways of dealing with them. Then we will discuss the archaeological sites and their diversity according to their uneven, and different importance, and according to their current situation; good, partially or totally destroyed, neglected or abandoned, or qualified and used to this day. This is followed by a discussion of the reasons and logical necessities for preserving historical sites, and the importance of this at all levels: humanitarian, cultural, national and economical.

This chapter will also discuss the beginning interest in archaeological sites, and the developing the interest, from the individual interest to adoption by international bodies and institutions, governmental and non-governmental, and the emergence of international covenants, which defined historical sites and outlined ways of dealing with them, which in turn became a reference for all countries of the world.

It will also give a historical overview of the most important stages during which the development of historical sites and archaeological buildings developed from the beginning of the nineteenth century through the first and second world wars, the most important schools of thought and the various opinions that emerged in those periods. , Methods and ways of dealing with archaeological sites and historical buildings, particularly those that had been damaged by war, and the most important and famous intervention policies, which are part of the process of conservation, restoration and rehabilitation of damaged historic sites will also be discussed.

The second chapter will focus on the concept of touristic rehabilitation for archaeological sites, starting with the importance of tourism in our time, the increasing growth of the tourism sector, and the great benefits that this sector provides in supporting the economy of countries, creating diverse employment opportunities and promoting communities in countries that are rich with tourist sites. This will be followed by a discussion about the concept of rehabilitation in general and its scientific definitions, and then identifying the term of touristic rehabilitation for archaeological sites, and its great importance on most levels, both in the protection and rehabilitation of archaeological sites, while at the same time strengthening the tourism sector, and attracting more tourists,; at the rehabilitation of each new archaeological site, to be a tourist site.

Speaking of touristic rehabilitation of archaeological sites it is necessary to discuss the threats and risks that result the damage and deterioration of these sites, and may cause them to go out of service. Tend the most significant of these risks, which variety according to the cause, is between natural hazards and the dangers caused by man. It will then discuss the touristic rehabilitation, following and its detailed steps followed, will then be discussed, from the first stages in the plan development of plans and to the preliminary studies of the sites, then study each site separately, and then choose the most important sites that have the most appropriate qualifications for touristic rehabilitation.

Next will be a detailed discussion of the practical steps taken in the rehabilitation of each archeological site to become a tourist site, from coordinating the floors inside and outside the site, to the decorative elements and logistic services needed for each tourist site, such as electricity, lighting and other services.

Service elements must be available in every tourist place frequented by visitors, such as garages and toilets, entertainment and promotional elements, to attract tourists to these sites. Also of great importance are the media and advertising elements in promoting the tourist site, which plays the biggest role in attracting tourists to archaeological sites. In this context, we will talk about the most important tourist media, its mechanisms and its great role as an integral part of the touristic rehabilitation steps for archaeological sites.

At the end of this chapter, we will briefly discuss the most important obstacles facing the touristic rehabilitation process for archaeological sites, such as the geographical location of the archaeological site, the adverse conditions surrounding it, and the poor budgets allocated to rehabilitate archaeological sites in many countries.

The third chapter of this section will discuss the reconstruction of historic sites after the wars, their importance as a major post-war step, and precede or parallel the touristic rehabilitation of archaeological sites.

First, we will discuss the importance of the post-war reconstruction process work, with an explanation of the general concept of the term reconstruction in general, and the reconstruction of historical sites. -that is a part of it. This is followed by a review of the most important definitions of the reconstruction of historical sites, as mentioned in the international charters (the Venice Charter, the Australian Charter, the Canadian Charter, etc.), issued by UNESCO and other international organizations concerned.

A brief discussion of the Dresden Declaration of 1982 as a lesson that can be used in the Syrian situation follows. The main reasons for the reconstruction of historical sites after the war will also be reviewed, such as highlighting the social, economic and political reasons, etc.

This chapter will also list addition to listing some of the arguments and viewpoints opposing that oppose reconstruction operations in historic sites, and define what the therefore what are the Conditions are that must be followed, so that the reconstruction process can succeed in those sites.

The main priorities of the intervention will be addressed within the reconstruction process of historic sites affected by war as well as an explanation of the stages of the reconstruction process, from start to finish.
In this case, it is necessary to talk about the most important authorities that target the reconstruction operations, from governmental and international bodies, and the most important directives and legislation enacted in this area.

At the end of this chapter, we will review the most important direction and perspectives in the reconstruction of historical sites destroyed after wars, such as the symbolic and

revived direction, etc., with a summary of the previous experiences in which these different approaches were applied, in different parts of the world.

Chapter I: Historical buildings, concepts, influences, and intervention policies

Giving attention to historical buildings and areas is not something new or secondary, but a matter of utmost importance, and preservation is considered a universal demand sought by all countries.

Moreover, they cooperate to protect this important part of their culture (Stubbs, 2009), especially in the face of the large-scale destruction attacks, which mainly affect the historical buildings and sites, which are the material embodiment of the civilization of peoples. Preserving it means the preservation of their own identity, and physical proof of their originality (Jones, 2007).

The interest in preservation and restoration operations began in the past, especially after the Industrial Revolution. However, with the end of World War I and II, global voices calling for the preservation of the architectural heritage began to increase due to the damage caused by the armed conflict (Grimmer, 1995).

1.1.1. The theoretical framework for dealing with heritage sites and buildings

By the early 20th century, an interest for historic buildings in some European countries had begun, as they are a valuable heritage that must be preserved. After the two world wars, the disaster-stricken countries began to pay attention to the restoration and revitalization of their old city centers and destroyed neighborhoods (Stubbs, 2009). By the second half of the twentieth century, this attention was directed to the Muslim world and third world countries. The architectural styles and the proposed planning ideas for the development of historic areas and buildings have produced many different policies to deal with (Jones, 2007).

These policies differ in their objectives and methods, depending on the degree, size, and type of the damage and destruction that have afflicted the historical area, as well as the importance of the material and moral values of these historical sites (Branch, 2009).

1.1.2. The general concept of heritage buildings

The buildings that collectively constitute the architectural heritage of an area, have acquired historical values, either through their architectural and aesthetic character, their long life, or their association with important old events that occurred in the region (Saleh, 2011). These events may be religious, economic, social, or political. The classification of historical buildings may extend to any building over the age of 50, -as provided by Italian law.

According to Syrian Law No. 222, the building materials must be over 200 years old to be considered a historical heritage and to be eligible for protection. Exceptions to the age requirement of the building itself and the building materials can be given only by the archaeological authorities, in cases of historical and artistic significance. It is also considered that each building over 100 years old is an archaeological structure (Saleh, 2011).

Felden defines historic buildings in his book as: "These buildings that give us a sense of admiration, and make us need to know more about the people who inhabited them and their culture, and have aesthetic, historical, archaeological, economic, social and political values" (Feilden B. , 1994).

1.1.3. The concept of historical buildings as stated in the international charters

The international laws of UNESCO, the International Council of Museum (ICOM) and the International Council on Monuments and Sites (ICOMOS) dealt with the concept of historic buildings (Mustafa, 2010). The following are the main points of the report:

The VENICE Charter of 1964: The archaeological building is defined as an architectural work, in which a guide to a particular civilization, significant development, or historical event is discovered. This definition applies not only to the architectural structures, but also to the urban or rural environment, and not only to the great works, but also to the modest works (ICOMOS, 1965).

The principles of Lahore 1980: Consistent with the previous definition, and emphasizes that it includes Islamic historical gardens, and ordinary housing, where Muslims reside in villages and cities, this traditional architecture is a physical environment, characterized by the harmony between the Islamic character, and Islamic civilization (Ahmad, 2006).

The unified Arab law in 1981: Agrees with all the above, and adds the ruins and remains of structures and cities, caves, castles, buildings and fences, left by previous generations, and emphasizes the consideration of the monuments associated with the archaeological building or those supplementary to it, as part of it.

Accordingly, the historical site in the laws of antiquities in the countries of the world is defined as the construction or structural remains, which are established over a period of time. This duration varies from one country to another and has historical, cultural, artistic, literary, religious, and political value, or all, or some of them together.
In addition, any building can be deemed by the competent archaeological authorities of each country to be preserved outside the period specified in its laws (Ahmad, 2006).

1.1.4. The importance of heritage sites and buildings

The concept of historic buildings has been identified in the previous pages, and the historical areas are defined according to the UNESCO Convention of 1976 as a set of buildings and architectural spaces, including archaeological sites, which constitute a human settlement in an urban or rural environment that recognizes its coherence and value from an archaeological, architectural, historical, aesthetic, social or cultural perspective (Hagea, 2002). The importance of historical buildings and areas lies in the following points:

- The historical buildings and areas represent an essential part of the features of cities and villages, and give them originality and beauty between other cities and regions, and this is an important historical and cultural significance (Branch, 2009).

- The historical buildings and areas with all of their contents, represent an inspiring planning and architectural school for their distinguished architectural styles, efficiency of functional and aesthetic exploitation of their empty spaces. In addition to the good use of the local building material, also present are models of harmony between man and the surrounding environment (Maliki, 2004).

- The functional role played by historical buildings and areas, because of their locations in cities and villages, and the possibility of working on the rehabilitation of large parts of them, take advantage in using them in new functions that commensurate with the current era (Branch, 2009).

- Historical buildings and areas represent the space in which ancient times lived, giving them a high symbolic and spiritual value as well as historical-archaeological value, scientific-documentation value, and sometimes religious value, which is of great importance in many respects, including political importance.

- The touristic significance of the historical buildings and areas. Stemming from their originality and scarcity, in addition to the economic and social significance (Chihara, 1992).

1.1.5. Classification of historic buildings according to importance

At the beginning of the last century, following the conclusion of the Venice Charter for Architectural Conservation (ICOMOS, 1965), the concept of the historic building was extended to include all buildings that have architectural, aesthetic or cultural value, and are no longer confined exclusively to religious monuments and palaces. In this sense, historic buildings, which must be preserved, are classified according to importance into two main sections:

- **Monuments**: important buildings or structural remains associated with a collective human value, on a global, regional or religious sectarian level, but preserved only to their original state. This usually applies to monuments and

distinctive architectural buildings (Tancredi, 2005), such as (the Dome of the Rock, Jerusalem), (the Coliseum, Rome) and (the Great Umayyad Mosque of Aleppo.

- **Documented buildings:** Documenting certain historical stages, generally less important than previous buildings, because they have more than one building, and are usually located in historical centers of cities and villages (Cunliffe E. , 2012) ,such as traditional dwellings in the old parts of cities (The old city of Aleppo -the old city of Damascus ... etc.) (Shaw & Jameson, 1999).

1.1.6. Types of historical buildings and sites and their current physical state

The nature of historical and archaeological sites and buildings spread throughout the world are classified as religious buildings: such as temples, mosques, churches, schools, shrines, or civilian buildings (Shaher, 2005): such as baths, Takayia and Khans, barracks, or military buildings: such as castles, forts, fences and towers.

In addition, there are private homes, whether they are old or still have old distinctive patterns and artistic and architectural elements. Such buildings exist in terms of their physical state in several possibilities:

- Old buildings functioning and in good condition
- Neglected buildings that don't have a current functional use.
- Buildings partially destroyed and affected by severe damage
- Buildings totally destroyed, and in the form of scattered remains

In general, the procedures taken for such situations, combined or separated, which must be included in the management, preservation and touristic rehabilitation plan, are:

Restoration in its general and comprehensive meaning, then renovation and comprehensive rehabilitation. The elements of these potential actions are detailed:

Reconstruction in some cases, completion of damaged parts, reinforcement and repair work, and restoration of what is needed from parts of the site.

Each of these procedures have details and extensive scientific studies for each element of them, and what concerns us in this research is the overall view of the historic building (Hassan O. , 2009), i.e. the procedures of restoration and rehabilitation of historical sites, after wars and disasters, to come back and play its important role, in terms of civilization and tourism.

1.1.7. Preservation of historic buildings

Preserving the historical center of the city means preserving its unique values, such as architectural, historical, archaeological, social, spiritual, documentary, economical, and political values (Qasimu, 2014). All previous values can be summed up -as some researchers see- in:

1- Historical value: It is what the city and its archaeological buildings give, from scientific values reflecting a certain age or event in the history of humanity (Hassan, 2009).

2- Artistic value: It is the value expressed by one of the characteristics of the archaeological building, which is in line with its architectural and historical value.

3- Practical value: It is enjoyed by architectural legacies, which are still used today, or at least reusable, or can be used to play a role in people's lives (Saleh, 2011). The practical value of mosques and churches, for example, is very high because they are still used today. The practical value of any building that is no longer functional dwindled.

The importance of preserving historical cities and their archaeological buildings are linked to the consequences of this preservation of returns and results that justify and increase the importance of touristic preservation and rehabilitation (Chihara, 1992), which are inseparable or very different from the above:

1- The historical outcome: Is represented in the preservation of the identity and uniqueness of the deep-rooted civilizations, the historical sequence of the city, and the continuity of learning from the past (Hassan, 2009).
2- Artistic and aesthetic returns: This is to rid the effects of neglect and isolation, and reuse and employ the appropriate technical and aesthetic elements, in other words, to preserve these legacies in a good state for future generations, so that they have the opportunity to benefit from them and to derive their values. In addition, it is possible to find appropriate solutions to the interrelationships between the architectural legacies and the contemporary architecture of the city, both within and outside the historical regions (Demas, 2003).

3- The economic returns:

- Exploitation of old buildings by re-using or re-functioning them instead of new constructions, thus saving part of the material and human resources (Pedersen, 2002).
- Development of touristic resources as an important resource for the country, will be explained in detail in the next chapter.
- Creating new job opportunities, through the implementation of conservation programs in scientific methods and means, using trained labor (Pedersen, 2002)

1.1.8. The development of the preservation concepts of historical buildings and the emergence of international conventions

The preservation of the archaeological and architectural heritage of a city is one of the most intertwined and complex issues due to the divergence of views around it, the multiplicity of contributors to it, and the different social and economic variables.

Therefore, international organizations and governmental and non-governmental institutions have organized seminars, international conferences and workshops to examine the dangers facing historic cities, buildings and archaeological sites. They have issued charters that are considered a reference for all countries in enacting and developing laws and regulations governing preservation (Cunliffe, 2012).

The international charters provide guidelines for the care, preservation, and respect of historical elements, and does not expose them to what degrades their historical and artistic value. They also define general terms and principles, which helps us achieve this (Stubbs, 2009). But it does not discuss the specific details of each effect individually, as to its historical structure or its physical state, which requires interventions at different levels, the use of different techniques, and decisions based on a careful study that enables us to make the right decision in the restoration process. By balancing the advantages and disadvantages of every decision we make (Lafah, 2001), the political and economic factors play an important role in the maintenance process during the completion of the restoration process.

Since ancient times, the idea of linking the great buildings with the names of the rulers built in their era has emerged as a symbol of strength, prosperity and stability.

Therefore, every ruler -after the stability of his state- worked on establishing buildings that perpetuated his name. In many cases, every new authority that has been in power worked on removing all the physical manifestations of the authority it has accepted (buildings, statues, etc.), through demolishing, destroying or dismantling their stones, and using them for the construction of new buildings (Thomas, 2001). Moreover, it is worth mentioning that the only buildings that have survived tampering with were religious buildings and sanctuaries for their spiritual value and the belief that it is capable of protecting itself from the enemies. However, in our time has these religious buildings and shrines of did not survive tampering and vandalism, and it has had its share of destruction caused to historic cities in the Arab region, due to acts of terrorism and armed conflicts.

We can divide the stages of interest in the maintenance and restoration of historical elements into the following:

Pre-World War I

The concept of preservation of historical heritage was first introduced in the 19th century, when the architect Gusep Valdière (during the restoration of the Titus arch, in the Roman square in 1821), used the perforated marble travertine, different in color from the original marble of the arch, to distinguish the modern interventions from the wrinkled and worn shape of the marble ornaments and old columns.
He also made a small mark to memorialize the history of these interventions. Valderier's respect for the original construction and his behavior in this manner was considered unusual at that time (Kasab, 2006).

In 1877, the interest in historical objects was, reached to the mania limits. A stream of architects led by French architect Violet Ludok reflected his views on the restoration: "The restoration of a building is to reestablish it in full position, which may not have never been existed at all historical periods." In other words, he adopted the idea of reconstruction to its original state, by removing all historical interventions that follow the passage of time (whatever their artistic, architectural or historical significance), and all the overlapping layers, to achieve the pattern purity or the unified model (Haretani, 2001).

In 1879, an opposition movement, led by John Raskin and William Morris, emerged. They created an association for the protection of ancient historic buildings. Its most important restoration goals were to give all the historical stages that an old building had undergone an equal value. Therefore, the concepts of preservation and protection must be followed. Instead of the restoration and reconstruction that Ludok put forward, Maurice wrote, criticizing Ludok's ideas. "Restoring within this concept is a gentle and embellished expression of the vandalism aligning with the most heinous types of desecration of historic buildings" (Kasab, 2006).

In 1883, the Ottoman government issued a system for the preservation and maintenance of antiquities and excavation works. That system consisted of (37) articles (Mustafa, 2010).

In 1888, the first specialized laboratory for the examination of archaeological objects, using X-rays and ultraviolet rays, was established in Berlin, Germany.

In 1891, a laboratory was established to examine archaeological objects in the Austrian city of Vienna .(Haretani, 2001)

In 1900, a new concept was adopted by Louis Rijel, in which he strongly objected to the restoration methods of the 19th century and aimed, through his principles, to preserve the historical fabric without any interventions, so that the preservation would be as pure as possible (Kasab, 2006). Rijel identified the value of each monument with two main values:

1- The value of obsolescence, where he sacred preserved the effects of natural erosion on the monument, saying; "We particularly appreciate the natural cycle, about existence and extinction, and every material thing that is made to be seen, as a natural entity that should not be disturbed" he said. Thus, he opposed all human intervention in it, whether it was deliberate destruction, or prevention of natural deterioration over by time, and only observing the elements as they eroded and disappeared (Branch, 2009).
2- Historical value, which also includes artistic, architectural and aesthetic values, which should not be interfered with, as a historical document that must be kept as true and correct as possible (Branch, 2009).

The difference between the two values lies in the fact that the historical value of the monuments increases as they are protected and preserved from distortion and damage, in contrast to the time value that decreases.,

Thus Rijel's opinion was that; "The ruins appear more spectacularly as its damage is developed, but of course this has its limits (Zawawi, 2000). A pile of stone that has no shape cannot deliver and carry the time value; there must be at least a trace of the original form that can be perceived as a result of human work ".

In 1921, a laboratory was set up to examine and restore archaeological objects in Britain, followed by the establishment of a laboratory for the preservation of monuments in Boston, USA, and another in the Louvre Museum in Paris, France (Kasab, 2006).

After the end of the First World War

At the end of the First World War, Europeans waken on a great loss that destroyed a large number of their buildings and historical monuments. Thus, those interested in heritage were concerned about the need to preserve what remained, especially with the insufficient knowledge of the methods and ways of restoration that guarantee their safety and continuity (Montenegro, 2016).

Therefore, an international conference was held in Athens, Greece, for the architects and specialists of historical monuments in 1931. Moreover, they issued a famous charter that defined for the first time the basic principles for the preservation and protection of historic buildings. It was known as the charter of Vince. These principles were used to develop a wide international movement, in the issuance of national documents, and the establishment of international institutions such as UNESCO, the International Center for Museums (ICOM) and the International Council of Monuments and Sites (ICOMOS). The most important of its outcomes and recommendations were:

1- Respecting the historical and artistic value of heritage buildings, without neglecting the model of any era of historical times (ICOM-CC, 2008).
2- Preserving archeological buildings, and taking care of them in a way that leads to the continuity of its life, or reusing them with functions that respect their historical and artistic nature.

3- Adopting the general trend aimed at the right of annexing these buildings to public ownership (Acquisition right) and the need for a public authority in each country to have full authority to determine the standards for the preservation of old buildings (ICOM-CC, 2008).
4- Respecting the designs of modern buildings that will be established in the Old City, the character and general composition of the old city (ICOM-CC, 2008).
5- Eliminating all the visually contaminated infringements and environmentally polluting industries within the historic area.
6- Using modern materials (reinforced concrete) in reinforcing the old buildings, but in a manner that preserves the archaeological character of the building, but used in places that are not as visible (ICOM, 2013).
7- Cooperating between specialists (archeologists, architects, etc.) to find ways and methods that can be applied in different situations (Cunliffe, 2012).
8- Carrying out thorough and accurate analytical studies before implementation maintenance procedures for historic buildings, cooperating and exchanging experiences between countries in the field of protecting the archeological and architectural heritage, and raising public awareness of the importance of preserving heritage.
9- Documenting historical buildings of national importance, within the archives of each country, and publishing them, with documentation and dissemination of all work that has been preserved (Kasab, 2006).

Post-World War II

After the end of the Second World War, a great number of European cities were devastated. The Europeans found themselves in the grip of a great disaster; they have been alerted that the centers of their cities and important buildings had been destroyed by the war.

The movement to reconstruct the destroyed historical monuments, which embodied their history, has been active in an attempt to re-establish the familiar aspects of life before the disaster, on one hand, (Shaher, 2005) and rebuild what is destroyed on the other, and here they have collided with strict preservation and protection principles advocated by the old buildings' protection societies. In some cases, these principles are

unrealistic and antithetical to logic, and focusing on them will lead to increased damage to the monuments.

There is a need to re-evaluate the historical buildings and monuments. The used historical monuments should not be treated in the same way as the unused monuments. The use value is the moral (immaterial) value of the monument (Demas, 2003), and the value of originality, i.e.; preservation of original building materials, any marks, inscriptions or drawings, including old traces that were added to the value of age and historical value.

The concept of historical elements has expanded to include every urban or rural site that represents an evidence of a particular civilization, important development or historical event. This applies not only to great works of art, but also to the more modest old works (Haretani, 2001).

Moreover, after increasing awareness of these problems, many conferences were held, in which documents were issued to complement the Athens Convention, in particular, the Venice Charter of 1964, which included all the theoretical references to the concept of preservation. And stressed the broad definition of the historical impact, respect for the original fabric, historical periods, and the use of historic buildings in new and useful social functions (Kasab, 2006). After that, many conferences were held, and many laws and documents were issued, which concern the protection and maintenance of historical sites, after World War II and to this day.

1.1.9. Criteria for selecting historic buildings to be preserved

In the second chapter of this section, we will discuss the criteria for selecting archaeological sites in order to make them eligible for touristic rehabilitation. However, the process of touristic rehabilitation of archeological sites must be preceded by the process of selecting the most important archaeological sites, which should be subject to the management and conservation process, and then nominate the best ones for the next step, which is touristic rehabilitation.

There are many historical buildings and sites. We cannot preserve all of them. Therefore, the process of selecting historical sites and buildings that will be preserved and rehabilitated is subject to the community's nature, traditions, laws, and requirements (Maliki, 2004). In addition to being subjected to general criteria and considerations, the selection process is carried out as follows:

- Building Age: The construction time and historical age, which has a great role in giving value to the building, as the older the building is, the more important it is to preserve it (Demas, 2003).

- **Architectural and aesthetic value**: Some historical sites and buildings represent a distinctive architectural style, whether in design or construction, or in the use of materials and so on.

- **Historical value:** Historic buildings or areas may be associated with distinctive national or historical events, making it necessary to preserve them (Branch, 2009).

Social Value: Some buildings or historical areas are linked to social legacies, such as important social or cultural events, or a person with significant achievements that make him or her a member of society or history, such as writers, scientists, politicians and others. Therefore, those homes and buildings are part of the heritage, which must be preserved (Hassan, 2009).

- Religious Value: Some buildings and sites have a distinct religious value, depending on the culture associated with them, and according to the unique importance of a group of people.

The homogeneity of the site and its importance and the environmental value: there is a mutual influence between the important heritage buildings, and the surrounding environment, as buildings adjacent to these have a role in giving value to them, and vice versa., The existence of a heritage building gives value to the neighboring buildings and makes it necessary to preserve the surrounding urban fabric as a whole (Maliki, 2004).

- Uniqueness and scarcity: The uniqueness of the building and its unique architecture, style, construction, location or any other important factor can be a reason to preserve it, as it may be its scarcity -although it does not have sufficient qualifications that give it

its aesthetic, architectural or other important value- that takes the credit for his candidacy for preservation work (Maliki, 2004).

- Political value: Some buildings prove they have a certain identity, existence or idea, such as the old government buildings.

- Touristic value: Some buildings or sites highlight their value in the touristic matter, and the consequent economic importance (Pedersen, 2002).

In addition to the above, there are some other practical issues and criteria that are considered and affect the selection process, including:

- The cost of restoration and maintenance
- The possibility of carrying out the restoration and maintenance works, without adversely affecting the heritage value of the building (Jones, 2007).
- The accuracy of information, data, and documentation available on the historical building, which in turn affect the accuracy, ease, and success of preservation operations, and the extent of change in the building (Walton, 2003).
- All previous values do not necessarily meet in a building or a site, in order to be nominated for preservation, but it is sufficient to find a single value in the building to be qualified for preservation and protection

1.1.10. Intervention policies in historical buildings

The preservation and restoration work is one of the most important interventions for repairing the buildings and upgrading them, from the damage factors, which may be caused by imbalance, either as a result of natural factors or because of the accumulation of human interventions. These processes are the means of repair, which restores valuable buildings to their origin, and is highly capable of restoring the building as usable as possible and ensuring continuity in its functional role within the urban fabric of the old city. These processes are not imposed, but rather are based on the accumulation of previous experience, encouraging operators to take the decisions on intervention policies that must be followed to preserve urban and architectural heritage (Saleh, 2011). Intervention policies in historic buildings can be classified as:

Preservation: This policy does not allow any changes at all, but allows the addition of non-visible materials, in order to preserve the state of the historic building, as well as not allowing the removal or changing the use of the building. The aim is to preserve the buildings, the special architectural fabric and character of the historical area, as a scientific value and a historical symbol, which must be preserved in its original form, namely, the preservation of the historic building in its original form .(Shaw & Jameson, 1999)

Architectural Conservation and Conservation Policy: This policy allows the use of additions and supporting materials, which preserve the structure of the building, to ensure its continuity and preservation, as well as adaptability to the rapid and continuous change in the historical area. It also allows for some changes and additions, with specific constrains, to the demolition and removal, in case the parts to be removed do not affect the value of the historical building, and the function of the original building can change, unless it was religious. Therefore, this policy deals with the historical area and with all its elements, it aiming's to maintain the sense of the historical value of the building, and emphasizing the identity of the place and the local community (Feilden, 1994).

Rehabilitation policy: This policy is concerned with both archaeological sites and historical buildings (in terms of restoration, renovation, protection, maintenance and reuse), and its urban environment (in terms of improving its infrastructure and providing the necessary services). It restores the site or the historical building and revives it once again for the same original use or for the new use, with some changes to suit its new usage needs. This method ensures that the building remains in a good architectural and service condition due to continuous maintenance, by the persons and their users, and includes the recovery of the amounts spent on the building when it is maintained (Ahmad, 2006).

Restoration Policy: A policy that ensures the reconstruction of lost and damaged parts of the historic building using new materials adapted to the original building's materials to restore the original shape of the building (Feilden, 1994).

Consolidation policy: This policy uses physical additions, or adding adhesive or adherent materials, to the original building, in order to strengthen and maintain it (Hagea, 2002).

The policy of reconstruction through transfer: In some cases, the dismantling and transfer of the building from one site to another is more appropriate (Shaw & Jameson, 1999).

Protection policy: This policy is not only concerned with the protection of historical buildings from the structural and visual point of view, but also includes the definition of the standards and requirements for ensuring the maintenance of these buildings, within its legislative and urban framework. It aims to prevent the deterioration of the archaeological buildings by protecting them from any external influences, environmental or physical, that may adversely affect it or its urban environment (Branch, 2009).

Urban Renewal: aims to design a new urban environment by repairing and renovating buildings, if possible, or by removing and replacing them, in addition to designing and coordinating the surrounding sites, and renovating the necessary facilities and services. In other words, it focuses on reviving the cultural, aesthetic and symbolic value of architectural elements, including buildings, surrounding environments and sites, with the emphasis on the functional and economic value (Ahmad, 2006).

Restoration and Renovation: This policy deals with individual cases of buildings located within the historical area, not with the physical and social context, and focuses on the cultural value of the monument, not on its functional or economic value. The aim of this policy is to restore the origin of the buildings, with a distinctive historical or archaeological character, through both the structural restoration works, as well as the internal and external finishing works of the facades. This policy also includes the required maintenance work to maintain permanent conservation of the monument in its original state. Thus, focusing on emphasizing the spiritual and symbolic aspects of the buildings, and considering them a heritage value reflecting the era in which they were constructed (Hagea, 2002).

Adaptive Reuse: This policy is concerned with the functional and economic value of historical buildings, in order to preserve its historical, architectural and scientific value. It also focuses on re-using them in new functions, to fit the development with the least change in the internal distribution of spaces, and does not change any external interfaces, while maintaining the maintenance of buildings, and keeping them in a practical manner (Maliki, 2004).

Replication: a replica of a particular item to compensate for damaged or missing parts of a building, often it is used for decorative parts (Maliki, 2004).

Restitution policy: Rebuilding a collapsed building through the use of remnants of the original parts of the same building .(Shaw & Jameson, 1999)

Clearance and replacement policy: This policy was linked to the work that was implemented to deal with degraded urban areas after World War I, especially in the central areas of historic cities. The focus was on removing degraded buildings, with poor attention to the historical and cultural value of these buildings, and then establishing projects and buildings in place, to achieve purely functional and economic objectives. Therefore they were particularly associated with urban renewal and reconstruction policies, which dealt with historical areas on a more urban and social scale (Maliki, 2004).

Reconstruction policy: This policy is concerned with the functional dimension, and the economic value of use. It is characterized by wide freedom - ignoring the cultural and historical value in many cases-in the possibility of changing the uses and urban fabric and networks of movement, to suit the evolution and changes of the age. However, it is particularly concerned with the reconstruction of the damaged historical buildings on its site, or the reconstruction of a large part of it, to complete the building and restore it to its original form as much as possible, depending on the accuracy of the documents available about the building (Feilden, 1994).

Chapter II: Touristic Rehabilitation of The Archaeological Sites

Tourism is considered one of the most important sources of national income. It has become one of the largest industries in the world, as the WTTC's (World travel and tourism council, 2015) statistics and studies showed that included 184 countries and 24 scattered regions worldwide, estimating that the growth of tourism has exceeded 2.8 % (of the global economic growth rate), and tourism and travel income reached 7.2$ US trillions (9.8% of the global GDP –Gross domestic product-), and supported 248 million jobs , equivalent to (1 out of 11) jobs in the global economy (Pedersen, 2002).

While many studies have predicted the continued growth of the tourism sector, tourism has become an increasingly important factor in the planning and management of the UNSECO world heritage sites. This has become obvious with the increasing number of visits to the sites listed on the world heritage list, and the prosperity and growth of these sites due to the rehabilitation done by the concerned stakeholders, both private and governmental, and by collaborating with the world heritage organization (AIA, 2008).

Recently, one of the main requirements of every society seeking urbanization and growth is that all its members are able to participate in and enjoy the social, economic and cultural assets of this society (Pedersen, 2002).

The historical and archaeological sites and buildings are considered important and indispensable sources that are rich and diverse expressions of past societies and an integral part of local, regional and national cultural identity (Rogerson, 2011).

These sites have great importance and authentic cultural value, as some are still used till nowadays, and others are considered important tourist attractions and a museum for visitors from everywhere. At the same time, some archaeological sites suffer from destruction and erosion, due to neglect and forgetfulness by government and private bodies, whether local or international. This is what makes it difficult, or sometimes impossible, for these places to be visited by tourists and even by local people.

And this led out these important sites to go out of service, leaving their original cultural and economic function (Chihara, 1992), Therefore, it is necessary to work on the restoration of these buildings and archaeological sites, and to facilitate access to them,

in order to increase the awareness and appreciation of their cultural, social and economic values, and to help meet the community's requirements to protect its architectural heritage, while meeting the need to provide equal opportunities for all.

1.2.1. Rehabilitation Definition

The concept of rehabilitation in general has several definitions as provided by some specialized institutions, scientific research centers and international organizations:

The National Research Council of Canada

"Rehabilitation is usually carried out in order to extend a building's life and/or its economic viability. It may involve more adaptation than conservation, but will still preserve most of the building's original features. It may involve upgrading, some modification, remodeling, rebuilding or retrofitting, and some repairs. It may be done to the exterior as well as the interior of the building. It may be referred to as major or minor. According to the usage of the word over the past few years, rehabilitation projects fall somewhat short of renovation projects in extent and/or cost of work" (Khirfan, 2016).

And it was defined by The **Heritage Foundation of Canada**

"The renovation to describe the modification of an existing building. This process extends the structure's useful life through alterations and repairs while preserving its important architectural, historical and cultural attributes" (Khirfan, 2016).

And according to the standards of **The US Department of Interior for the Treatment of Historic Property**

'The act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its architectural and cultural values" (Grimmer, 1995).

The previous definitions refer to the rehabilitation process as a general concept.

As for the touristic rehabilitation of archeological sites, which is the core of this research, it can be defined as a group of corrective and restoration works, in addition to

accompanying it with the processing of the infrastructure of archaeological sites and providing them with all logistical and appropriate service attachments-basic and luxury attachments -, The aim of this work is to make the archaeological site integrated (Montenegro, 2016), that it meet all the basic conditions and standards required in the tourist sites; hence, it can be added to the tourist sites that receive visitors and tourists from all over the world under the item of cultural and heritage tourism.

The touristic rehabilitation of archaeological sites has its strategies, steps and conditions, which vary from one archaeological site to another, according to the reality of each site and its features and requirements (Branch, 2009).

1.2.2. The Importance of Touristic Rehabilitation for the Archaeological Site

As mentioned at the beginning of this chapter on the exceptional importance of tourism in its various types, the most important of these types is historical tourism and heritage. This type of tourism is mainly based on visiting archaeological sites and heritage sites all over the world (Rogerson, 2011). In addition, it is considered one of the most attractive types of tourism for tourists, because of the great passion of man to learn about the civilizations of various peoples and to know its history and development through the ages.

Archaeological and heritage tourism depends on visiting the different archaeological sites left by ancient man, such as the archaeological hills, temples, palaces, castles and old churches, which are spread all over the world (widely in the world). Man left in those sites the urban buildings and equipment that he used and developed over time in construction, agriculture, domestication and other daily work, in addition to the archaeological evidence that reflect the intellectual, artistic and ideological situation that prevailed in those times. This will be evident when visiting national museums located in the cities where these archaeological sites are located, or in the field museum of each archaeological site (Bridgland, 2003).

Regarding the process of touristic rehabilitation of archaeological and historical sites, the talk will be limited to the importance of the process of rehabilitation of those sites

from the cultural, service and economic aspects, without addressing the historical and archaeological significance of those sites, which will be explained in another chapter.

For a further understanding of the necessity and importance of touristic rehabilitation of archaeological sites, it is necessary to talk about the main reason that led to the destruction and erosion of those sites, which caused the need for repair and restoration. It is also impossible to talk about the process of touristic rehabilitation of archaeological sites without mentioning the risks and negative effects that these sites were –and still are- exposed to continuously throughout the world (Jones, 2007).

The threat to archaeological sites is *"any factor which will destroy the commemorative associations of the place or disturb, or remove any earthworks or stratigraphic evidence"* (Jones, 2007).

The rehabilitation process is supposed to put an end to these risks, which cause damage to historical and archaeological buildings, resulting in their destruction, the discontinuation of their use and, consequently, their gradual erosion.

Threats to historical monuments fall into two main categories:

First: Damage caused by nature:

A. Earthquakes and lightning

Earthquakes are one of the most dangerous factors for archaeological and urban structure. Man cannot predict the occurrence of earthquakes, how and when, until only a short time before they occur. Even now man doesn't have the ability or the methods to stop its danger. Earthquakes have caused severe damage to historical and archaeological buildings, including decay, cracks, sometimes collapse and other damage. These hazards are often proportional to the intensity and duration of earthquakes (Thomas, 2001).

In the case of lightning, man can successfully prevent the danger by installing lightning arresters, which require studying the historic building and the best method of distribution and installation of lightning arrestors inside and around it. It there must be a

periodic check to retain permanent readiness to protect the building from any danger that may be caused by lightning at any time (Jones, 2007).

B. Rainfall and floods

One of the natural hazards of archaeological sites and historical monuments is heavy rainfall and sometimes this causes the erosion of the soil's drift under the archaeological construction (JONES, 2011). The impact of the failure of the soil's drift is more dangerous to archaeological sites built of fragile materials such as mud and gypsum. In addition to the increase of relative humidity caused by the rain, this causes significant damage to the construction structure and leads to corrosion. One of the most serious damages caused by acid rain that occurs in some countries of the world is that this type of rain erodes the limestone surfaces of the archaeological buildings (Jones, 2007).

The rise in the sea level in the islands and cities located on the beach, in addition to the high level of water on the shore of the great rivers, lead to the submerging of some of the archaeological sites located on the banks and destroying them- or parts of them-.

C. Weather factors

These factors are reflected in weather fluctuations, such as high or low temperatures and the intensity of wind causing erosion, which causes extensive damage to historical and archaeological monuments and artistic remains (Jones, 2007).

Second: Damage resulting from human behavior

There are a number of dangerous things that cause serious damage to archaeological sites and buildings, many of which are caused by man, such as fires, wars, demolitions and vandalism (Thomas, 2001).

A. Man was the main reason

Whether it is intentional or unintentional - to set fire to private and public residences or agricultural fields. These fires sometimes develop to corrode green land, causing the burning of wooden ceilings and taking with it everything that could include symbols, ornaments, and writings (Thomas, 2001), causing damage to stones of the constructions

that weakens its resistance after fire. Some fires in agricultural fields cause serious damage to the extended archaeological hills (Jones, 2007). We have many examples in the Arab world that fires destroyed many historical buildings and works of art, such as the fire of Al Aqsa Mosque in Palestine and the burning of the Umayyad Mosque in Damascus in the late Ottoman era.

B. War, hostilities and armed conflict

This is also one of the main reasons for the damage and destruction of many archaeological sites. The first and second world wars were the reason for extensive destruction of the archaeological structure of Europe in general (Casana & Panahipour, 2014), in addition to the destruction of archaeological sites in both Syria and Iraq by the conflict between the countries and the deployed terrorist groups who are fighting in those countries. Archaeological sites, ancient hills, temples, churches and museums have been the victims of conflict and mutual bombardment by both sides on one hand, and on the other by the systematic destruction of extremist groups (Shadi, 2015). These groups deliberately destroyed many archaeological sites of religious, cultural and archeological in nature, as well as destroying the contents of museums and the removal of graves and shrines, on the grounds that they contradict with their beliefs.

C. Demolitions and vandalism:

The lack of monitoring of archaeological sites has encouraged many institutions and individuals to carry out acts that lead to the demolition of historic buildings, in order to renovate or remove them in order to establish a new building, as a result of ignorance of the historical and archaeological value of construction, and in some cases, deliberate acts of demolition (UNESCO, 2004).

Antiquities collectors and thieves, who aspire to illegal gain, resort to the demolition of historical buildings and taking their decorative elements, or one of the columns or crowns or other artistic remains, with the intention of selling them to collectors (Shadi, 2015).

In addition to the above, the most serious factors are the growth and development of urban and village development projects, as well as the large construction projects such

as dams, railways, roads, oil and gas pipelines, and the establishment of airports and seaports. There are many examples of damages caused by these factors, such as the drilling of the oil pipelines in the Syrian Desert, which passes by the Syrian city of Tadmor, and has led to the destruction of a number of magnificent tombs. Also the construction of the modern port of Tartous on the Syrian coast led to the destruction of the remains of the Phoenician Roman port. The same applies to the ancient port of Ugarit / Ras Shamra in the city of Baida.

The construction of the modern military port in the Syrian city of Latakia removed many of its ancient remains. In the Syrian city of Rastan, the construction of the dam there led to the demise of the famous Rastan Khan (Shadi, 2015).

In addition to the above, the random restoration, or the restoration by people with limited experience, plays an important role in the destruction of archaeological sites and distorts them, rather than repairing and maintaining them (Majid, 2007).

In the light of the previous dangers to the historical site and archaeological alike, failure by the competent authorities in the care of archaeological sites is the most dangerous factor due to, the absence of monitoring, conservation and restoration of those sites. In some cases, and for many reasons (Jones, 2007), this includes weak strategic planning for saving those sites, the lack of expertise, competencies and qualified staff, and the poor budget of the Ministry and the Directorate responsible for the care and preservation of these sites (Ministry of Antiquities - Ministry of Culture), in addition to many other technical defects that will be explained later.

There are many serious dangers that lead to the destruction and ruin of archaeological sites, which are considered to be a loss to the history of the nation and its civilization, in addition to causing these sites to go out of service, leaving their most important functions as tourist sites that attract many of the tourist groups to the country, is consequently, a major loss in the national income, which depends -in large part of it - on tourism revenues (Chihara, 1992).

That’s why it's important to rehabilitate the archaeological sites, because these sites are centers of civilization that introduces the history of nations and their previous civilizations. They are an authentic heritage that relates to the character of the nation

and gives it its distinctive character. It also expresses its level of privacy and determines its level of taste and creative sense, and it's prosperity in science and arts. In order to be constantly on the map of tourist sites in the world, and to remain a constant source of attraction to tourists from all over the world, and thus be a constant source of national income of the countries (Pedersen, 2002), Competent authorities must rehabilitate the archaeological and historical site, and work on the restoration and periodic maintenance, in addition to the preparation of all tourist attachments that qualifies it for the reception of visitors. This is one of the most important duties to the process of tourism rehabilitation of the archaeological site, which we will explain in the following pages.

1.2.3. Touristic rehabilitation, Steps, and Methods

Touristic rehabilitation of archaeological sites is one of the successive operations to managing archaeological sites, which starts with exploring the site and evaluating its situation and what is needed, from restoration and conservation. Therefore, the decision of the touristic rehabilitation is for the most suitable site, while other unsuitable sites remain within the archaeological management (Khirfan, 2016). Managing the sites and preparing them for touristic rehabilitation have several steps and stages that will be explained in the following:

- Extensive predictive studies for archaeological sites and monitoring the situation:

Every state must be aware of the archaeological and historical sites on its lands, regardless of the importance of those sites. If the state –with its competent organs and services- is not capable of protecting and rehabilitating all these sites, it’s imperative that it have the knowledge of all the sites deployed on its territory, and to take appropriate measures to protect those sites from environmental hazards and human destruction (Chihara, 1992).

In order to do so, the state, through its competent bodies (the Ministry of Antiquities and others), must assign delegate committees to periodically survey its lands, discover the scattered archaeological and historical sites, conduct monitoring and evaluation of the current state of each site, and list all the hazards that these sites face, with classification of these hazards (whether it’s temporary or permanent). They then need to

create a database of all the important information about these sites and update them continuously and periodically within a broad and comprehensive predictive study (Zealand, 1998). This study is based on the permanent monitoring of all archaeological sites.

Monitoring is "the act of measuring change in the state, number, or presence of characteristics of something" (Zealand, 1998).

An important step in the management of archaeological sites is permanent monitoring of these sites. This process relies on collecting information frequently about these sites over time, and analyzing this information to detect the changes that happen to the archaeological site. This facilitates the identification of the problems and damages that threaten the archaeological structure frequently, and identifies the vulnerabilities. Upon completion of the study, practical and administrative measures are taken when the need arises to stop or limit the problems (Walton, 2003).

This monitoring includes observations of changes in external pressures applied to space, changes in place conditions, as well as monitoring the effectiveness of administrative procedures for conservation.

Physical damage to archaeological sites is often caused by land-clearing, indiscriminate agriculture and afforestation, as well as events related to nature, and the negative impact of visitors on archaeological sites. Some damage causes a reduction in the historical and archaeological value of some historical buildings, through humans changing them and reusing them inappropriately (Zealand, 1998).

The importance of monitoring and managing archaeological sites, and their preparation to be touristic rehabilitated sites in the future, is a reliable element that gives continuous accurate information on the changes the archaeological site faces, and thus allows the operators, and those directly responsible, to make rational, efficient and fair decisions, when allocating the resources required to repair and protect the site, and, if possible, rehabilitate it as a tourist site.

The goal of monitoring archaeological sites is to minimize avoidable disturbances and to better understand archaeological resources so that they can be managed and preserved for the long term. To ensure that the monitoring process has the desired results and is effective, it must be characterized by commitment and continuity, that a standardized

approach to collecting information at all locations is followed, and a standardized format for reporting on the key requirements for required reforms (Mackintosh, 2001).

It should be noted that monitoring archaeological sites requires a certain degree of monitoring of the situation in order to determine the rate and causes of any deterioration, to determine whether there are any emergency adverse events, where rapid intervention may be necessary (Walton, 2003).

Where monitoring and record-keeping are among the most important prerequisites for effective short- and long-term management of sites, it is also essential that decisions of those responsible for the management of the archaeological site should be based on a good level of understanding of each heritage site, its location in the broader landscape, and the factors that led to its current status. They should also understand each problem before attempting any corrective action, and then make recommendations that specify conservation requirements and the necessary administrative activities that lead to the required reforms (Fernie, 2000).

An important factor in monitoring archaeological sites is the ease of registration, replication, cost-effectiveness and avoidance of self-evaluation as much as possible. The level and quality of registration directly affects the time and costs involved.

The registration process can range from mapping the site to simplistic drawings, taking notes, taking photographs, doing a detailed survey of the place, and making large-scale illustrations (Zealand, 1998).

There are different methods of registration and response modes depending on the nature of the historical place, whether it is an underground archaeological site, a static or a burial place, and not all places and locations require the same details. Different levels of registration are required according to the current circumstances of each location (Mackintosh, 2001).

With clear and detailed records, accompanied by detailed maps, a good assessment of the current state of the building or archaeological site is available.

In the process of registration and monitoring, it is desirable to use standardized terminology to describe the damage, the vulnerability, and its details.

The officials and those responsible for the initial monitoring of the buildings are supposed to be competent personnel in the field of archaeological and historical resources (Grimmer, 1995).

This is for the preliminary study, which is a predictive study of all archaeological and historical sites and buildings in the natural and routine state. As for the process of touristic rehabilitation of archaeological sites, this must precede a comprehensive study of archaeological sites carried out by government institutions responsible for the archaeological and touristic sector in the state, and that's through its field bodies of specialists and experts (Zealand, 1998).

The tasks of these studies are as follows:

1- A comprehensive survey of the land and exploring all the important archaeological sites in that country (Hassan A. Y., 1998).
2- Establishing a comprehensive database for all archaeological sites discovered in ancient times and recently, and the different historical periods that belong to them and their archaeological significance (Walton, 2003) (Branch, 2009).
3- Determine the expected touristic potential of each archaeological site initially, and on the basis of several factors that will be explained later (Palumbo, 2000).
4- Setting an initial plan for the management of the most important archaeological sites and the more likely candidate for the touristic rehabilitation process, taking into account the legal requirements of it (Branch, 2009).
5- An initial report shall be submitted for each important archaeological site, which includes the general condition of the site, its environment and the circumstances surrounding it, so as to enable it to be managed in the future in an easier manner (Walton, 2003). In addition to that, recommendations and initial suggestions should be attached to the report detailing the best ways to manage and handle these sites.
6- Archaeological and historical sites that are subject to continuous hazards and damages should be referred to, give recommendations for the protection of these sites, and stop the source of damage in the case of human action, or mitigate it in the case of nature, so that the process of touristic rehabilitation can take place (Walton, 2003).

7- The general study shall give recommendations to government and private institutions responsible for the rehabilitation of archaeological and historical sites, so as to direct the funding and efforts to some archaeological sites that are likely to be the best touristic sites in the case of their rehabilitation (Branch, 2009).
8- The archaeological sites in this study which are candidates for the process of touristic rehabilitation in the future, are categorized into different units according to location and by type (ancient hills - castles - palaces - temples - archaeological parks ....), and according to the archaeological and historical importance of those sites, also referring to the sites that require less effort in the touristic rehabilitation process, where it has the priority (Walton, 2003).
9- A map of the country shall be attached to the study, indicating the areas of the most important archaeological sites that are candidates for the touristic rehabilitation process, in addition to the archaeological sites that were already rehabilitated and the roads linking them (Branch, 2009).
10- Continuously update the database of this study with each subsequent discovery of new sites and with the rehabilitation of each site from the sites on the list (Walton, 2003).

This preliminary study of archaeological sites provides an opportunity to conduct a detailed analysis, in addition to compiling and reviewing data collected from archaeological studies and previous individual investigations.

This initial evaluation process has a significant impact on the overall framework of the action plan to be developed for the rehabilitation of each location since it includes the recommendations and guidance of the Archaeological Administration, as well as other auxiliary administrations, on the best ways to manage and rehabilitate other sites. This allows initial consideration of the status of each site and its ability to contribute to contextual research topics and questions (Branch, 2009).

The synthesis of the results of previous projects and studies provides a useful context for the broader interpretation of archaeological and historical reality in the region, indicating how these research results can explain the general pattern of preserving the archaeological and historical resources of the region and how they contribute to the

database of archaeological resources, which will fall under the tourism sector -if they are rehabilitated- in the future (Walton, 2003).

It is not possible for all regional management bodies to undertake detailed cross-site studies alone. They always need specialists from outside these bodies (Grimmer, 1995), where the responsible ministry (archaeology - tourism - heritage,……according to each country) is responsible for equipping the former administrative bodies with those specialists who are involved in the study, analysis and comparison of material evidence from previous investigations who will provide an essential baseline study for future plans and individual projects (Zealand, 1998) (Branch, 2009).

The combination of data from archaeological resource assessments with analysis of past investigations and available historical information will provide a comprehensive analysis of the historical nature of the region, which will facilitate the focus on individual investigations of each site, by identifying relevant work and management priorities.

1.2.4. Preliminary study of each archeological site

After establishing the preliminary general study of all the sites nominated for touristic rehabilitation, a team of specialists (archaeologists, architects, law specialists and others) is appointed by the responsible government agencies (Ministry of Culture, Ministry of Tourism, Antiquities Director).and the team's responsibility is to study the reality of each archaeological site nominated to be a tourist site, and determine the possibility of rehabilitation of this site. This process is accomplished through a number of steps, including:

1- Studying the archaeological and historical aspects of the archaeological site and its area, and the role played by the site over successive historical periods and its relation with archaeological sites surrounding it through the ages. This study is the mission of the specialized archaeologists (Walton, 2003). This study includes the date of construction of the archaeological site; the first periods of settlement and the construction period; the basic function for which it was established; the alterations the archaeological site has gone through, from additions and removals in times of

peace, and destruction and collapses in times of war; when the site was registered in the list of monuments as well as its archaeological registration number; and the functions of some archaeological sites after their registration (Elborombaly, 2015).

2- Studying the urban nature of the site and the types of architecture in which it is distinguished, setting up a draft of the current status of the building and detailed drawings of the entire site, in addition to developing a topographic scheme for the site and its surroundings (the responsibility of the architects with the cooperation of the archaeologists (Walton, 2003).

3- Taking digital images of all parts of the site and creating a three - dimensional model (3D Model) of the site, using the software and applications of the computer competent in this function, such as (3d Max - AutoCAD) and other programs, to maintain a copy of the current state of the site (Walton, 2003). It gives us a conception of the state of the site in the past before the destruction of some of its parts, and thus these 3D models help us to visualize the situation of the site after the rehabilitation and restoration and it becomes a tourist site (specialists in photography, design and software).

4- Evaluating the structural reality of the site and the damage suffered by the site or some of its parts, and the risks to its safety (Walton, 2003), such as cracks in the walls and parts which are subject to collapse by factors pertaining to the surrounding nature, such as wind and rain and others, and giving recommendations for the restoration quickly, according to the critical situation of these damages (from the responsibilities of architects and restoration specialist) (Elborombaly, 2015).

5- Studying the urban environment of the archaeological area, through the relation between the monuments and the urban constructions both in the surrounding area of residential buildings, as public buildings or buildings of a special nature, or surrounding roads and green and open spaces, as well as near the city center or the surrounding suburbs (Elborombaly, 2015). Also studying the property within which the archaeological site is located, and noting whether it is owned by a private entity (such as archeological sites located in the old cities - or the hills and archaeological gardens located in the agricultural lands, which are owned by some citizens) or under the property of the state (Walton, 2003), and the legal status of this property, if it is rehabilitated as a tourist site, if it'll stay private property, or become part of the state

property and the consequent legal procedures (specialists in the law, with the coordination between the municipalities and the Directorate of Antiquities).

6- Determining the uses and activities surrounding the monument, as the activities surrounding the monument have a significant impact on the status of the archaeological site, negative or positive. The impact is positive in the case of using the area surrounding the archaeological site in the field of housing, cultural or tourism, and the impact is negative if it's used as workshops or as an industrial area, as it causes an optical and auditory contamination that affects the value of the archaeological site. It is necessary to study the level of the height of the buildings around the archaeological site, as it is desirable not to exceed the height of the archaeological building. This helps to emphasize the harmony of the architectural construction with the surrounding environment, consequently not causing a blur to the nature and beauty of the site.

7- Studying the status of buildings surrounding the monument, if there are any, and evaluating them to determine if they are in good condition, mediocre, or weak. If they fit in terms of architecture and visually- with the character of the site, the consequent decisions must be taken within the plan of touristic rehabilitation, as in some cases, some of the newer buildings surrounding the archaeological site shall be removed, or parts of them. Some restorations and repairs are necessary for some facades, and sometimes they are left intact when there is no need for emergency modifications. All these procedures affect the stages of the restoration plan and rehabilitation of the archaeological site, in terms of restoration methods, the economic cost of the project, and the economic feasibility of the work in general (Elborombaly, 2015).

8- Evaluating the infrastructure of the site in its present state (Jones, 2007), what it possesses from the basic conditions which qualify it to be a tourist destination for visitors and what it lacks.

The basic infrastructure includes the following:

1 - Paved roads that reach the archaeological site

2 - Electricity and lighting of the entire site

3 - Drinking water that reaches the place

4- Sewage networks

5 - Places for visitors to rest

We must make sure of the presence and efficiency of these facilities in the site, and its impact on the monument in the case of renovation, maintenance and re-operation, and whether it is able to bear an increase in the number of users in case of rehabilitation of the site (Elborombaly, 2015).

9- One of the most important steps necessary in the preliminary study of the archaeological site nominated for touristic rehabilitation is the study of the demographic nature of the site location, which is completed by studying the nature of the local population, their cultural and ethnic background, and the customs and traditions prevailing in that region. The acceptance of the population to the idea of rehabilitation of their area and the influx of foreign tourists should be studied as well, to include a questionnaire by social specialists, through which they meet with the residents of the region to get to know their opinions and suggestions, and whether they accept the idea of modernizing their areas and making changes to them. These studies and interviews are carried out in cooperation with municipalities in local population areas (Pedersen, 2002).

10- Studying the archaeological site prepared for touristic rehabilitation also includes the nature and geography of the site and the surrounding areas, with the characteristics related to topography, geology, geomorphology, soil and vegetation cover (Jones, 2007), in addition to conducting an analytical study of the structural elements of the site:

1- In terms of studying soil, foundations and building materials:

- Studying the movement, level and quality of sub-surface (underground) water
- Soil Mechanics Study
- Study soil layers below and around the foundation levels
- Case study of foundations
- Study of building materials used in the foundation (clay, stone, marble, timber) and the method of its construction

2- Structural study using the mathematical representation of the monument:

- Structural analysis of the various elements of the site and the loads applied on it, and the loads that are likely to be applied to them during the process of rehabilitation of the site, and study of their capacity (Branch, 2009).
- Also study the balance and stability of the structure of the site under the influence of dynamic loads (earthquakes - wind - traffic).

Assess the impact of previous characteristics on the relative safety of the site or the damage caused to the site, ie, the positive and negative impacts of the surrounding environment on the safety of the archaeological site (Elborombaly, 2015).

This comprehensive study is useful in the development of a future strategy, which aims to mitigate the damage and disadvantages caused by the nature of the site for its safety and how to handle them.

It is recommended that this process be complemented by the creation of a 3D design (Katsianis, 2008), or a cross-section of the site using maps and plans (Walton, 2003) and using the GIS program to help clarify the spatial characteristics of the area studied (Rolf, 2001).

The steps to follow of the touristic rehabilitation of the archaeological site after the selection process are as follows:

1- Preservation:

"Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property .Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction" (Grimmer, 1995).

Preservation:" All actions taken to retard deterioration of, or to prevent damage to, cultural property. Preservation involves management of the environment and of the conditions of use, and may include treatment in order to maintain a cultural property, as nearly as possible, in a stable physical condition. With respect to material valued exclusively for its information content, for example some archival material, preservation may include reformatting" (CAC, 1986).

Studying the site and conducting all works, which will stop the effect of various damage factors on the building or the archaeological site, by controlling the environment surrounding that monument.

2- Conservation:

Conservation: *"All actions aimed at the safeguarding of cultural property for the future. The purpose of conservation is to study, record, retain and restore the culturally significant qualities of the cultural property as embodied in its physical and chemical nature, with the least possible intervention. Conservation includes the following: examination, documentation, preventive conservation, preservation, treatment, restoration and reconstruction"* (CAC, 1986).

"Conservation - all measures and actions aimed at safeguarding tangible cultural heritage while ensuring its accessibility to present and future generations. Conservation embraces preventive conservation, remedial conservation and restoration. All measures and actions should respect the significance and the physical properties of the cultural heritage item" (ICOM-CC, 2008).

Continuous and sustainable periodic work, which will prolong the life span of building materials and maintain them in good shape, and thus prolong the age of the archaeological site in all details.

3- Restoration:

Restoration:*"All actions taken to modify the existing materials and structure of a cultural property to represent a known earlier state. The aim of restoration is to reveal the culturally significant qualities of a cultural property. Restoration is based on respect for the remaining original material and clear evidence of the earlier state"* (CAC, 1986).

Restoration – "All actions directly applied to a single and stable item aimed at facilitating its appreciation, understanding and use. These actions are only carried out when the item has lost part of its significance or function through past alteration or deterioration. They are based on respect for the original material. Most often such actions modify the appearance of the item" (ICOM-CC, 2008).

The work and the attempts to restore the original form of the monument as much as possible through various processes, such as cleaning, updating, strengthening, reforming and other procedures required.

4- Completion of missing parts (Completion)

Complete the visual picture of the archaeological building, provided that this is preceded by a detailed study of the method of construction and the materials used, taking into consideration that the completion should have as limited interference as possible (Shaw & Jameson, 1999).

5- Consolidation

Consolidation: "The physical addition or application of adhesive or supportive materials into the actual fabric of cultural property, in order to ensure its continued durability or structural integrity" (STUBBS, 2009).

In the case of signs of weakness and collapse on the archaeological building, we strengthen the weak areas by using the appropriate techniques and materials, renewing the mortar of the cracked walls and reinforcing the weak columns and ceilings, using the appropriate metal bars and angles, to be used in the minimum limit and do not distort the archaeological appearance of the site, in addition to strengthening the colored murals that are prone to disappearance using the appropriate chemical materials and solutions.

6- Rebuilding

In the case that some parts of the archeological site are partially destroyed, the decision may be made to rebuild the destroyed parts, especially on the site that will be rehabilitated as a tourist site, as the visitor should see what the building has been since ancient times, even if it's an approximation for the real condition, as the destruction obscures and distorts the architecture of the monument (Chihara, 1992).

To rebuild the destroyed parts of any archaeological site, building materials similar to those used in the construction of the site are required to be used. In addition to that, the building style of these parts should match the urban pattern of the site. The restorer must show the distinction between the old and the newly constructed parts, by giving

them a darker or lighter color than the basic construction, in order to avoid the historical falsification process.

7- Remolding

In this process, we remove the buildings that were erected around the archaeological site after its creation in later eras, but it should not have any significant archaeological, historical, artistic or functional value. In this case, the archaeological site is more clearly shown to the tourist, focusing on the aesthetics and importance of the site (Branch, 2009).

8- Rehabilitation

'Rehabilitation: "The modification of an historic architectural resource to contemporary functional standards, which may involve adaptation for new use" (STUBBS, 2009).

It is not possible to carry out the touristic rehabilitation process of the archaeological site without taking the previous steps, which in normal conditions are an essential part of the conservation of the sites and their proper preservation and management. Moving on with the archaeological or historical site to the second stage, this stage uses the site as tourist site, and additional and essential measures must be taken to rehabilitate it for the reception of visitors and tourists, so that it can perform the new function to the fullest extent and achieve the objective for which it has been rehabilitated (Haretani, 2001).

The following are the necessary steps to complete the rehabilitation of the tourist site:

After conducting predictive studies of the entire archaeological sites in general, and then studying the general situation of each site, and working on preservation, restoration and management in an optimal manner, the selection of archaeological sites and historical buildings most suitable for touristic rehabilitation depends on several basic conditions:

1- The site should have a significant historical and archaeological importance.

2 - The site should have clear landmarks in terms of construction and aesthetics.

3 - The unique value of the archaeological site, in the archaeological, artistic and urban terms, where it is one of the rare examples of its kind.

4. The important religious value, as a religious center of some ancient religions, or as an important pilgrimage point for existing religions.

5. The archaeological site should be in a convenient location that is easily accessible, such as being within the cities where it has the priority in the touristic rehabilitation process, or in accessible places close to the public road network (Rogerson, 2011).

6 - The importance of the places surrounding the archaeological site, in terms of heritage (old cities), or aesthetics (close to the green areas, seas, river banks).

7. The site shall have the minimum basic infrastructure (road network - electricity - lighting - drainage networks) (Tancredi, 2005).

After the selection of the appropriate archaeological site, the necessary procedures for the rehabilitation of the site are completed by fulfilling the required conditions so as to be a tourist site with excellence. These reform and rehabilitation procedures include the following steps, which will be explained in detail.

First: Coordination of floors:

1- Roads

One of the most important steps in the coordination of floors is to rehabilitate the roads from outside the archaeological site to the inside. Roads leading to the site are paved if it is far from the public roads. If the place is on a paved road, attention should be paid to the quality of the roads surrounding the site, its renovation, and the improvement of pedestrian sidewalks, if any (Aygen, 2005).

Pedestrian corridors should lead inside the site, and other interior corridors that connect its parts, paving these with white sand or a kind of smooth river stones, and sometimes using soft black basalt stones, to maintain the cleanliness of the archaeological site from the inside, and to reduce pressure on the floor of the site. Sometimes metal or wooden

corridors are constructed to connect the parts of the site. They are crossed over to avoid walking on the original archaeological floor of the site and above the excavation squares to avoid danger and damage. These corridors are equipped with railings to prevent crossing the passage and to protect the visitor from falling from the sides of the pathway (Elborombaly, 2015).

The entrances must be equipped with ramps at an inclination angle of 0.03-0.05, in addition to the design of all interior corridors with suitable width and inclination, so that visitors with special needs can enter and exit the site and pass over it using their wheelchairs without any difficulty (Aygen, 2005).

In multi-story archaeological sites, such as palaces and castles, where the transition is made using stairs, it is necessary to design a railing of wood or polished metal to help the visitor who needs to hold on to them while climbing the stairs. They should be fixed to the walls that wrap around the stairs as is the case in the high towers, or it is fixed on the floor of the stairs at one end or both, as is the case in the stairs that are in the entrances of archaeological buildings and castles.

Sometimes the old stairs are destroyed, or are structurally weak. Crossing over them is dangerous to the life of the tourist. The task of the restorers is to strengthen these stairs or replace them by installing metal stairs. These stairs are characterized by their high quality, being lightweight, and easy to design according to the required dimensions, shapes, and slopes. They are easier and safer to navigate, as well as easy to modify or remove in the future if necessary (Grimmer, 1995).

2. Coverage

It is intended to cover all the pits and hazardous areas inside the site, as in many locations, the excavation work left excavation squares behind, which the administration decided to keep to show the archaeological character of the site and its important features. They must be covered with a network of transparent glass roofs where the hardened and unbreakable glass is used, which is capable of bearing great pressure, and these glass roofs have a good advantage, allowing the visitor to see the archaeological floor that lies below it, thus preserving the archaeological character of the site. The

change that was added shall not exceed the originality and aesthetic of the archaeological site (Grimmer, 1995).

The slabs and roofs of castles, palaces and other archaeological buildings are characterized by openings for drainage of rainwater and others for lighting and ventilation, and they are of different sizes, which form a danger to the visitor when approaching them. In this case, it is better to cover them, also with transparent glass or plastic that is slightly elevated, so that they are visible and protect the visitor from falling, while at the same time maintain the main role of these openings in the process of lighting and ventilation (Demas, 2003).

Some of the archaeological buildings have floor openings that belong to the old or the modern sewage systems, In this case, they must be covered professionally with metal or marble which are suitable covers.

Second: the decorative elements in the surrounding area of the monument:

The surrounding area of the archaeological site or building is embellished in several ways. The surrounding area is tiled, but this work shall not harm the authenticity of the monument and the old area surrounding it. The tiling is done using elegant black marble. Sometimes, several colors of marble are used such as white, black and pink, which is similar to the architectural style called the Ablaq (Petersen, 1996). The tiling is interspersed with basins where grass and flowers are planted, and sometimes trees, like palm trees. One of the most striking examples of this is the work of the Aga Khan Foundation in rehabilitating the vicinity of Aleppo's ancient citadel in Syria (AKTC, 2007).

The archaeological site is sometimes surrounded by green areas of grasses, which are characterized by a shortened root, so as not to hurt the soil or what may be in the soil under the monument if it exists and has not been revealed yet.

These trees and green areas around the site are irrigated using a network of pipes, which rely on dropping irrigation techniques, taking into consideration that they are hidden, and that the water does not harm the surrounding archaeological site (Walton, 2003).

In the areas that allow large spaces in the vicinity of the archaeological site to add additional decorative elements, it's good to have fountains that permeate the tiled areas

in the vicinity of the site. Their architectural design is close to the historical and architectural pattern of the archaeological site, and it reflects what the case was in previous eras. These fountains are an aesthetic addition to the surroundings of the site, and contributes to the refreshing of the surrounding atmosphere.

It is serves to add fixed seats and benches in the vicinity of the monument, to be used by visitors for resting and observing the archaeological site from the outside (Mustafa & Balaawi, 2013). It should be noted that these benches need to be close to the historical character of the archaeological site, and at the same time convenient to use.

Third: Logistics of the site:

1- Electricity

Electricity is one of the main services part of the basic infrastructure of the site. It must reach all parts of the site as t is essential to light the different parts of the site, have working alarms, and all the other necessary devices inside the site such as computers, surveillance cameras and others. This is why it's necessary to have electricity at the archaeological site and to extend the electrical wiring network to reach all parts that need electric power. In this regard, several conditions must be observed:

A - The electrical extensions between the parts of the site are hidden, either inside the walls or in the new floors, or in an elegant plastic enclosure, to be installed on the walls and floors and to extend the telephone and electricity wires inside it. No matter how the electricity is extended inside the site, it should not affect the artistic and the archaeological character of the site (Grimmer, 1995).

B- The health and safety environment (HSE) (Conditions) shall be observed in the extensions of the electrical wiring. The wires shall be well insulated so as not to allow electricity leakage which leads to a short circuit that could start a fire at the site. Therefore, the wiring specialists should be very careful and precise in their work.

(C) The electrical outlets shall be in appropriate places in the walls or floors, and be covered in case of non-use, in appropriate and elegant forms (Grimmer, 1995).

2- Lighting

After the electricity is delivered to site, all parts of the archaeological site must be illuminated, in addition to the surrounding area. The lighting poles are placed around the site to illuminate its surroundings and the outer corridors. The interior parts are illuminated by light bulbs, which are installed in the ceilings, walls or corners.

One of the recently used lighting techniques is those with sound sensors. The light works in every part of the site, with the sound coming from the movement of the visitors. The light automatically turns off after a specified period of time and in the case of the silence in its surrounding, this technique is unique and saves electrical energy (Jodidio, 2011).

In some cases, the walls of historical buildings and castles are highlighted. The reflection of the lights on the walls at night gives a great aesthetic value that helps attract the attention of the visitors.

3 - Guidance signs

The roads and corridors are accompanied by guidance signs indicating the directions that the visitor must follow within the site to facilitate and organize movement inside the site. In addition to explanatory plates for the entrance and exit points of the site, other warning caution signs are used showing the areas where the visitors are not allowed to approach (Jodidio, 2011).

These signs are in suitable sizes made of plastic or stainless steel, and are coated with reflective paint, and placed in the appropriate places and at heights for the visitor to see clearly and easily, so as not to affect the aesthetics of the archaeological site.

Fourth: Service elements

1- Garage

One of the most important service elements that must be attached to the archaeological sites that are rehabilitated for tourism is the garage which should be in the vicinity of the archaeological site. It is designed to receive a number of private cars and buses that

carry visitors to the archaeological site. The design of the garages is due to the nature of the property within which the archaeological site is located. For archaeological sites surrounded by empty spaces, the garage is above the surface of the land within these areas, but in the archaeological sites that fall within the old cities and are surrounded by dense housing, the garage may be designed to be under the surface of the earth if possible (Rogerson, 2011), for example the garage adjacent to the Citadel of Aleppo that is located underground.

In general, it is advisable to design the garage as near as possible to the archaeological site, to reduce the long walking distance to reach the site, to be ready to receive the appropriate number of buses expected to visit the site, and to ensure its protection.

2- Water Courses (WCs)

The archaeological site, which will have a staff and receive visitors constantly, must be equipped with suitable toilets in terms of size, location and number, which is commensurate with the usual number of visitors (Chihara, 1992).

In the huge archaeological buildings, some parts inside the building may be allocated to be toilets. In this case, care must be taken with how to connect to the sewer network. The lowest proportion of drilling is needed so as not to damage the archaeological building, and to ensure that there are no leaks in the sewerage network. Also ensure water access of water to WCs through external or underground extensions, and the site may be provided with plastic tanks nearby, that provide permanent water for the site (Branch, 2009).

In the case that it is difficult to provide toilets within the archaeological construction, toilets must be built outside the building and in a nearby accessible location. In both cases, it is important to have toilets for people with special needs. They also need constant attention to maintain cleanliness and to work on their maintenance (Saleh, 2011).

Fifth: Recreational and promotional elements:

1. Reception desk

t the entrance to each museum and archaeological site there is an office to receive the visitors of the place, and the tourist groups, where the officials of this office can sell entry tickets, provide some preliminary explanations of the site, and to coordinate with tour guides to organize the movement within the site. This office provides the visitors with brochures containing information accompanied by images, explaining an important overview of the history of the site, its outline and the most important parts of its holdings (WTTC, 2016).

The office also displays some souvenirs, which are specially made to be sold to the visitors, which mimic the shape of archaeological pieces found in the place. Some of the clothing, stationery and other handmade artifacts can carry the symbols that characterize the archaeological site, as is the case in some archaeological sites in Egypt, where at the reception desk, they exhibit some statues and small-sized pyramids and pharaohs made of gypsum or synthetic stones. They also have summer dresses carrying Pharaonic symbols and writings, in addition to papyrus written in hieroglyphics. It's all handmade crafts made to be sold to the visitors as souvenirs that reflect the ancient Egyptian civilization.

Selling these souvenirs is not limited to the reception desk inside the archaeological site, but also to the kiosks and shops in the vicinity of the archaeological site. These booths and shops belong to the local population. In addition to souvenirs and antiques, they also display some of their local products and handcrafts, which are hand-made by the residents of the region, or by workshops where craftsmen do wood carving, embossing on copper, make hand-made carpets and some traditional clothing. There are many examples of theses shops and craft workshops such as those at the area of the Great Umayyad Mosque in Damascus within the Old City and others at archaeological sites.

These shops have a huge role in attracting tourists as tourists always want to buy souvenirs from the areas they visit. When they buy souvenirs, they contribute economically to the country's income while supporting the local community in this area (WTTC, 2016).

The rehabilitation of archaeological sites, which is represented by the Ministry of Tourism and its specialized committees in cooperation with the municipalities of the regions, should provide full support to these tourist shops and craft workshops for their development and revitalization. Support will be given to improving services in the region, granting loans to small projects to encourage them, and provide advice and guidance through specialists for local residents and workshop owners to improve their production. They will also provide training for the best ways to treat visitors, and provide guidance to tour guides about what they need to know to introduce the visitors of the archaeological sites to the surrounding area. They will visit the old markets and craftsmen workshops and introduce products and handmade works to take a more comprehensive view of the cultural and civilizational character of the country, to link the past and the present in the simplest way (AIA, 2008).

2 - Cafes and restrooms

Cafes and restaurants are often located in the old cities centers, in the vicinity of archaeological sites, especially those that receive visitors permanently. Visitors tend to sit in those cafes to rest from traveling and to eat some meals before continuing their tour in the region.

The location of these cafes have a great role in attracting tourists, as in some cases, the buildings, such as some of the palaces and huge castles, have interior and exterior spaces, or terraces with a beautiful view of the surrounding areas, that can be allocated as small cafes, which can accommodate tourists having quick drinks and enjoying the beauty of the place, provided that the establishment of this cafe shall not diminish the archaeological nature of the site, and does not form a threat to the construction structure of the site (AIA, 2008).

In the archaeological sites, where we cannot find a cafe inside, we find coffee shops next to them or in the nearby areas, where in some cases they have a direct view of the site or the archaeological buildings that attracts the tourists to visit them and enjoy the view of the archaeological building from the outside.

Some of the cafés are built in imitation of the heritage and archaeological style of the site, in terms of their facades or interior design, in accordance with the laws of the

ministry of antiquities, which requires that the facade of modern buildings or newly renovated buildings next to archaeological sites mimic the architectural and archaeological design of the site (AIA, 2008).

From the above, it's the duty of the Ministry of Tourism and the concerned authorities in the state and municipalities to provide full support to these restaurants and cafes in terms of services and infrastructure, and to provide loans, in addition to providing experience and advice through specialists in the field of architecture and restoration, to help the owners to restore and beautify their cafes to attract visitors, as well as provide guidance and advice on how to deal with tourists coming from different places, and in the best ways to do so (Khirfan, 2016).

3- Hotels and Accommodation

After the tour, tourists return to motels and hotels to rest after traveling. The presence of these hotels is a must and is essential to tourism, but the characteristics of these hotels, their capacity and their degrees vary from one place to another depending on the need for them (AIA, 2008).

For example, in archaeological sites close to large cities, which take several hours to visit, it is not necessary to have hotels in the vicinity, because most of the tourist groups return at the end of the day to stay in the large cities nearby.

In the large and important archaeological sites that takes a long time to visit, such as parks and large archaeological cities, there must be hotels in those sites, and these hotels are ready to accommodate the tourist groups, which vary in number from one year to another, and the numbers are often increasing with the development of the tourism sector in the region and the stability of the country.

The predictive studies carried out by the Ministry of Tourism in cooperation with the governorates and municipalities will help in estimating the number of tourists that will come to archaeological and tourist sites in the next year, and that's an approximate number. These studies are of great importance in assessing the increasing needs required to the preparation and development of hotels periodically, to be able to accommodate the number of visitors (AIA, 2008).

Sometimes, some of the old buildings, which are in good condition, are turned into hotels to accommodate visitors, after making some repairs and renovations necessary for the building, and this type of hotel is the most attractive to tourists as some tourists want to live the experience of staying in the hostel, especially if it preserves its ancient heritage. Examples of these heritage hotels are the municipal palace building in the vicinity of Aleppo Castle, which has been converted into a heritage hotel, under an agreement between the Syrian government and the Aga Khan Foundation.

The duties of the Ministry of Tourism, through its various agencies, are to monitor hotels and all kinds of hostels, to verify their compliance with the terms and appropriate standards for receiving visitors, and to provide advice, alerts and correct errors that may be committed by the owners.

The Ministry of Tourism, in cooperation with the municipalities, is also keen to provide hotels near the archaeological sites that are rehabilitated, for its importance in encouraging tourism to the archaeological areas by providing them with comfort, stability and welfare (Mustafa & Balaawi, 2013).

Sixth: Media and advertising elements:

1- Site Museum

At most of the archaeological sites and historical buildings, which are being rehabilitated for tourism, a limited and appropriate location is allocated within the site to be a miniature museum of the site. The site's museum contains real or copies of the archaeological objects found in the excavations, which took place at the site or in the surrounding areas. If there is no suitable place within the site for this museum, it is placed in a neighboring building –if there's any-, and sometimes a building is built for this purpose in the vicinity of the archaeological site (AIA, 2008).

The site's museum contains a number of glass cabinets, with wooden bases and frames, or metal coated with stainless paint. These cabinets extend along the walls of the place and in the middle and in the corners. In these cabinets, three-dimensional copies of the artifacts are exhibited, which are identical to those found during the excavations of the site. These versions are printed from plastic materials using a three-dimensional printer,

and then these pieces are given a color identical to the original color of the artifacts. These versions are exhibited in the site's museum with detailed explanations of the original pieces, what they represent, for what age they belong and where they are found. The visitors see them and learn about the history of the site, how man lived in the ancient ages at this site, what tools he used, what techniques were used in manufacturing, and what degree of civilization was reached in those ages (WTTC, 2016).

In some of the sites' museums, we find solid metal shelves, which display statues and original funerary stone paintings, which were found during excavations, and they are presented to visitors. Those who manage the archaeological site prefer to keep them in the site and not transport them to the main museums. One of the reasons is the difficulty of the transportation process because of their large size and weight, and the importance of their existence on the site as they are playing a role in attracting tourists to the site to watch.

The site's museum plays a role as important as the large national museums. Despite its small size and the limited number of objects displayed, it provides a concise and clear picture that helps visitors to understand many things about the archaeological site and the history of the surrounding area. That's accomplished through linking the information he hears from the tour guide to the details he sees on the site, as well as seeing the archaeological objects that were found in it without having to visit the national museums in the big cities, which may be very far from the site itself.

As an important step in the touristic rehabilitation of the archaeological site, it is necessary to pay attention to the establishment of the site's museum in each archaeological site intended to receive visitors and taking into account several things in the design, the most important of which is the following:

A- Lockers' Design: The lockers should be designed in the form of unbreakable glass boxes that are closed tightly to ensure that dust does not enter into it. The floor of the lockers is furnished with velvet in suitable colors. Inside there are artifacts or copies in a neat and organized manner. A glass or stainless steel identification plate shall be placed next to each artifact, with information on the archaeological piece in several languages (AIA, 2008).

The walls of these lockers are designed with rust-resistant materials. The design of these lockers is based on the walls in a slanted manner, or in the form of shelves and at appropriate elevations, allowing visitors with special needs to view the contents of the lockers easily.

B- Illumination: The site's museum should be well lit to allow the visitors to see the most precise details, and spread the lighting in the ceilings, as well as the lighting design inside the glass lockers, so that the light focuses on the displayed pieces appropriately. Also, the type of lighting used should not be harmful to the surface of the artifacts displayed in the museum.

2- Interpretive plates

When the tourist visits the archaeological site and historical building, and tours inside it, it is necessary to understand what his eyes see. He wants to know what this site represents and in what historical period it belongs to, in addition to some interesting information about the site. This is the main purpose of the visit, and thus the importance of the interpretive plates, which contains these important pieces of information about the site, so the visitor can form an integrated idea of the site and its importance with a quick look, and enjoy the knowledge of some historical information about it.

Several points must be taken into consideration when designing and installing these interpretive plates (AIA, 2008).

A - Design and material: The plates are made in different shapes and sizes. They are metal plates of stainless steel installed on marble columns, and sometimes the plates are of a transparent reinforced plastic, or unbreakable glass. Metal plates installed on the walls or the bases are made of iron, coated with a rust-resistant coating. The writings are engraved on the plates, or printed in a permanent line that cannot be removed by changing climatic conditions. These plates may be subject to weather conditions such as sun, heat, wind, and rain. Materials used in the design of these plates shall be suitable for surrounding climatic conditions.

B - The content of the plates and the type of the information: The plates are designed in cooperation between specialized archaeologists and professional designers,

where coordination is key between them to know what should be written on the plates, what dimensions are required in the design, and what images and drawings they must contain.

Archaeologists provide some important information about the site, such as the name, its sections, history, and some pictures of the site, in addition to a horizontal scheme of the site, made through the cooperation of the archaeologists and the architects, in order to put the names and numbers for each part of the site on the scheme, how to move it inside, and also setting the dimensions to design the plates, depending on the place where it will be placed (Grimmer, 1995).

The designer should provide the best design with the required dimensions, clarity of line and images, so that the visitor can read and understand it.

The information must be written in multiple languages (English - French - Spanish) and other languages if possible, in addition to the language of the country, to be understood by all visitors from all over the world (AIA, 2008).

C - Types of Interpretive plates and the places to install them: The interpretive plates are divided into several types, depending on the nature of the information on them and where they will be placed. Some of the interpretive plates are placed on the gates of the archaeological site, which are often large size plates, contain information in multiple languages, and includes a comprehensive horizontal scheme of the whole site showing each part, where the visitor can have an overview of the site and its nature before entering it (Rogerson, 2011).

The second type of plates is the one which is placed at the entrance of each section of the archaeological site and at each gate. These boards are smaller than the previous interpretive plates, and often contain less information, as it's placed in the room or sector that it talks about.

We mentioned earlier a kind of small interpretive plate placed in the site's museum, which is installed on the shelves, or inside the glass lockers next to the artifacts displayed, and these plates give a definition of each existing piece, its nature and historical period that it belongs to, and where it was found.

When rehabilitating the archeological site, one must consider that one of the most important functions of tourist sites is to express the cultural heritage of each country that the archaeological sites express, and transfer them to visitors from everywhere to identify new types of civilizations and cultures of other peoples (Walton, 2003). One of the most important duties of touristic rehabilitation of the site is to ensure that the visitor will understand most of what he sees in the archaeological site, and have a positive experience when visiting it. Interpretive plates and the care in their design and the nature of the information on it are a great role in the service of this goal.

3- Media Promotion

After the completion of the restoration and conservation process of the archaeological site, providing all the characteristics and services mentioned above to rehabilitate the site, and after it becomes accessible to visitors, the most important process begins. In the touristic rehabilitation of the site, the media promotion. This process starts after the logistics works in the rehabilitation and conservation of the site (WTTC, 2016).

Some may think that the media promotion of the archaeological site is not that important to becoming a tourist site, or it is a separate process from the steps of touristic rehabilitation of archaeological sites. This is a misconception and must be corrected. The media promotion is an integral and essential part of the process of touristic rehabilitation. As the case with any producer who markets his products so as to introduce them to the consumer and thus increase the demand for it, so is the case with the archaeological site. It needs to be marketed and introduced for people to know its importance, both locally and globally, in order to stimulate interest, encourage people to visit the archaeological site, to acquaint them with the value of the site and its beauty, and know what it represents from the architectural, historical and archaeological importance (AIA, 2008).

The touristic media of the archaeological sites is the physical evidence of the tourism industry, through its basic function and its essence, which is the definition of the country's features of tourism, whether natural, historical or archaeological, using all advanced means of media and communication, starting from movies and advertisements, that are capable of attracting foreign tourists and the citizens of the

state. So, touristic media is a necessary and crucial characteristic of the tourism industry in general, and tourism of archaeological and heritage sites in particular.

The interest in the media in general and the touristic media, in particular, are of significant benefit, to the impact and benefit returns on both the country and the individuals, and these benefits include the following:

1- Creating opportunities to move towards foreign markets and strengthen tourism presence and marketing abroad. It also creates new job opportunities that reduce unemployment and is aimed at improving and embellishing the country's external image by using the media (AKTC, 2007).

2. Touristic media provides many opportunities, in addition to helping to adapt to the requirements of competition at the level of competencies and costs, and works to increase the efficiency and effectiveness of local tourism markets and raise the level of services.

3. Professional touristic media will increase the credibility of countries to foreign investors. It is also working to create the appropriate environment to attract foreign investments. This credibility is linked to the state's confidence in its tourism sector, in addition to its various services and facilities and the highly qualified human resources it owns (AIA, 2008).

4 - Creates opportunities by encouraging immigrant investors, to return to the country, and invest their money in tourism, after they feel more confident under the shed of the openness of the media.

The attraction of capital from outside the country, especially those that migrated from it, is one of the most important goals of touristic media. The economic problems experienced by most of the countries of the world are often the biggest obstacle to the touristic rehabilitation process in each country as the public sector of the state is not always able to allocate a budget for the touristic rehabilitation process on the grounds that it has more important things to do that need to be funded. Hence the importance of the private sector and private companies and investors who have the ability to manage and finance touristic rehabilitation projects, including the rehabilitation of tourist sites. Archaeological investment is considered one of the most clean and profitable

investments for investors, for the state that invests in its land, and also for the labor that these investments will provide opportunities for within the country (WTTC, 2016).

In other words, investors, private sector companies, and the joint sector have their role in filling the economic vacuum that governments cannot occupy across their public sector. Private tourism companies may be more efficient and have better quality than the tourism sector that's run by the state because the private sector sometimes has wider experience and the largest and most diverse talent calibers. That's because it's spread in several countries. The private sector investing in tourism is more profitable than the public sector. It is always pushing for better offers, as well as exerts greater efforts in the touristic media process, that sometimes exceeds the media provided by the public sector, especially in developing countries.

The private sector is often distinguished from the public sector as more organized, less corrupt and bureaucratic, with higher productivity and better quality of work. Hence, we see that governments, through their ministries and specialized agencies (Ministry of Culture, Tourism and Municipalities), contract with private companies, local or foreign, specialize in the rehabilitation of tourist sites in various stages, from the work of restoration and conservation of sites and preparing it to become a tourist site, and in parallel works on the publicity and promotion of media for those sites. Thus, private companies and investors behind them, actually contribute to the rehabilitation of many archaeological sites, make them tourist areas and at the same time contribute in the promotion of it around the world, through media campaigns and propaganda (AIA, 2008).

What are the most important means of tourism advertising?

Touristic media plays a major role in the promotion of archaeological and tourist sites, and the media has various and diverse means.

- Type I: acoustic media:

These address the sense of hearing of the tourist, whether through conversations, music or sounds, and the most important acoustic or auditory means used in tourism media:

1 - Tourism lectures: the use of audio lectures through radio talks, to talk about tourism programs. It must be careful with the selection of the lecturer, who must be professional and attract attention (WTTC, 2016).

2 - Tourism seminars: used as an effective way to advertise tourism programs by the announcement of them as a disputation among a group of specialists in tourism. When the seminar discusses a controversial tourism issue, it is interesting and attracts the attention of the audience of tourists.

3 - Tourist conferences: It is one of the most important means of advertising and media for tourism companies, where the successful tourism companies tend to hold a conference for its delegates and agents of tourism, to familiarize them with the new tourism programs, plans and objectives of the company, and these programs are covered and broadcast in the news, as it represents an exciting attraction for tourists (AIA, 2008).

- Type II: printed media

1 - Newspapers: Touristic advertising is a successful means of media when it addresses the tourist audience. A reader of the daily newspapers finds an announcement directed to him, which provides him with important information, which introduces him to other archaeological tourist sites, which attracts him to visit and explore them.

2 - Magazines: give greater potential for the advertisement and promotion of tourism activity, using colors and professional images, which is an important means of media in attracting tourists.

3 - Books and tourist brochures: the UNESCO continuously publishes on its website and through its collaborating organizations and libraries, articles, books and brochures in a professional manner about the most important archaeological and tourist sites that have recently been rehabilitated around the world. Reading these publications encourages people from all over the world to visit those sites (AIA, 2008).

4 - Tourist signs and posters: The tourist companies deployed in all countries, tend to market for the tourist sites, through the publication of road banners, posters, and brochures promoting those sites, in several languages to ensure that it reaches the largest number of people.

5- Touristic brochures: These are small brochures that are distributed free of charge by the Ministry of Tourism and private tourism companies to the visitors from other countries at airports, train stations and at the border crossings. These brochures illustrate the most important tourist and archaeological sites in that country, and are designed in several languages, accompanied by photos and maps of the country, and shows the most important tourist sites (AKTC, 2007).

Type III: Visual Media

1 - Optical advertising: They are large electronic screens, placed in the major Squares, on the roads within cities, airports and ports, and may be static or moving, continuously broadcasting tourist ads.

2 - Tourist exhibitions: are organized by tourism companies and their branches in other countries within the international festivals, so that each country has the chance to introduce its tourist sites and market for them (AIA, 2008).

Type IV: Visual and Audio Media

The most effective among the other tools previously mentioned. Their means and tools are:

1 - Movies: it is a means seen by millions of people across the world, which is characterized by the production of high precision and professionalism, which attracts viewers to sites where the scenes of the films were taken and they want to visit them.

2 - TV: It is the most popular mass media in the modern era, and through the television media a number of tourist ads can be broadcasted (AIA, 2008).

3 - Sports competitions: Sports competitions, especially the Olympics and international tournaments are an important means that can be used in advertising and touristic media.

- Type V: Electronic media

This is known as the revolution of the twenty-first century, and the most popular media means that has access to the most people. It is the media in the form of websites and social media sites, where the media companies make full use of investments in this

field, and publish all of its new programs and ads through these sites, including the promotions of archaeological and tourist sites. Where man has become able at any time and just from the computer screen, can identify the most important and most beautiful tourist sites in the world, and the most important facilities and tourist offers by tourism companies around the world (AIA, 2008).

The criteria of success of the advertising campaign is related to the amount of specialization for the media, the confidence it creates in the recipient, and the extent of its interest in the tourism activity. When the tourist begins to view the information and news published as truthful facts, not just a paid advertisement, the advertising campaign has been successful (AIA, 2008). But there are a number of problems that are still facing touristic media, which affects the tourism sector, that must be corrected and suitable solutions found, to obtain professional touristic media to attract more tourists, and the most important problems suffered by touristic media are:

1- The weakness of the technical media that are compatible with the video, audio and print global technologies

2 - The absence of professional touristic programs that view archaeological sites and tourism, which must promote tourism (AIA, 2008).

3 – The lack of interest in advertising and tourism promotion, and lack of qualified tour guides to guide tourists introduce them to the most important tourist areas in the country. This is due to the lack of qualified public and private bodies.

4 - Wars and disasters spread in some tourist countries, which spread through the media, and forms a barrier to the goals and achievements of touristic media

5 - Lack of interest in exhibitions, festivals and tourist advertisements, which has a significant role in promoting tourism through spreading globally (Jones, 2007).

6. The broadcasting of the tourism advertisements at the wrong time, as the campaigns are supposed to precede the tourist seasons in the country, in an appropriate period of time to provide an opportunity for tourists coming from other countries, in time for them to recognize the tourist features of the country and choose appropriate areas to visit, and to plan his journey in advance.

7 - Misjudgment resulting from not studying the nature of the target audience that these advertisements are directed to and not knowing its trends before starting the media campaign, as the target audience may not be affected by the same influences and factors that raise the local public, depending on the different cultural, economic, political and social factors (WTTC, 2016).

1.2.5. Touristic rehabilitation obstacles

Rehabilitation is defined as the process of restoring the original state of the properties and buildings, through some reforms and additions which make it possible to use them in contemporary times while preserving the features of those properties with their great historical, architectural and cultural values (Grimmer, 1995). However, these archaeological sites have been exposed to the poor conditions of the surrounding environment which led to the deterioration. Some of these conditions' negative effects end with the completion of the process of restoration, conservation and rehabilitation of the tourist site, and some of them remain passive negative inherent to the archaeological site, which is one of the obstacles that accompany the process of touristic rehabilitation of archaeological sites. There are many obstacles, some of them precede the rehabilitation processes and others accompany it or appear after the process, and those obstacles have many reasons and forms, which will be listed and explained in general as follows:

1- Small budget allocated for rehabilitation and restoration.

As for other urban and service works, the touristic rehabilitation process requires a large budget to cover the costs of the rehabilitation works and its successive steps until it ends. Therefore, a certain budget must be allocated to cover conservations and repairs, which must be carried out periodically for these sites. The main problem is the lack of funding for these works by the competent authorities, both governmental and private, especially in the relatively poor countries (AIA, 2008). Under the large number of archaeological sites in these countries and the inability of these countries and governments to cover the costs of protecting archaeological sites, rehabilitation and

restoration, the allocation of a large budget for the rehabilitation of archaeological sites may be impossible, especially under the economic conditions of those countries.

2. Poor conditions surrounding the archaeological site.

It was also mentioned earlier that the bad conditions surrounding the archaeological site, which led to its erosion with time, are the same obstacles to the sustainable rehabilitation of the archaeological site, as the archaeological site, which is constantly exposed to climatic fluctuations and adverse environmental conditions, periodically needs repair and maintenance works as long as corrosion continues (Jones, 2007).

Archaeological sites located in the ancient hilltops, or upper mountains, are often exposed to adverse climatic conditions, such as strong winds that result in continuous erosion of the archaeological structure, where the restoration and repair processes accompanying the rehabilitation process are not sufficient to stop this continuous erosion. So the biggest challenge for the rehabilitation, is to find radical and sustainable solutions to those problems (Jones, 2007).

Some of the archaeological sites that are located on the banks of the current rivers, where the water level varies between summer and winter, and which flood the water around the site, or the closed archaeological sites flooded with rainwater, which turned the surrounding soil into a muddy environment, is also a big challenge for touristic rehabilitation (Jones, 2007).

3. The geographical location of the archaeological site.

The archaeological sites located within or around the cities are sites that are easily rehabilitated in terms of logistics, to provide all the necessary equipment and workshops for conservation and rehabilitation, which can easily provide building materials, water and electricity (Rogerson, 2011), as well as workshops and craftsmen like forgers, carpenters and others, In addition to the workers' places of residence, they are in the city itself and in most cases the workers and craftsmen are from the people of the city itself (Walton, 2003).

While sites located hundreds of kilometers away from major city centers and public roads deep into the desert or deep in the forests, it is natural that there are very large obstacles to be rehabilitated, because those sites need a lot of very important logistics:

1 - Access: Due to the distance of some archaeological sites from the city centers and main roads and from the public, it is necessary to construct secondary roads to connect the main roads with those sites, and paving them to be suitable for the cars and buses to use. They must also connect the sites with the workshops, and also to carry the tourist groups to those sites after their touristic rehabilitation. The roads must be settled and paved around the archaeological site, to facilitate movement in the vicinity of the site by visitors (Rogerson, 2011).

Constructing and paving the roads is a huge cost, where you need to allocate a large budget by the competent authorities, which may not be easy to provide.

2 - Electricity: The delivery of electricity (3 phase) or any other suitable electrical source to the site. All construction and rehabilitation workshops need electricity, taken from the nearest source, which is in some cases, tens of kilometers away from the site. This leads to the installation of new electricity poles with high costs, or replaced with large power generators, that are operated on diesel which is also a high cost (Grimmer, 1995).

3 - Water: To provide the water needed in the construction and rehabilitation, where water is supplied constantly, using the tanks allocated for this, or through the wells, especially in dry areas. Both cases are very expensive. Also providing drinking water, which is essential and vital to be available at the tourist site, which is also one of the challenges in the rehabilitation of archaeological sites, especially in areas away from the city centers and dry areas.

4 - Accommodation: Provide accommodation for specialists and workers near the archaeological site, to be constantly close to the workplace, by renting suitable homes near the site, and when the site is in an uninhabited area, the managers of the site have to construct neighboring houses, so that it would be suitable for the housing of the staff. This is what archaeological excavations do in some locations, which is also very expensive.

In general, securing the basic infrastructure for each tourist site, from water, electricity, lighting, main and secondary road networks, and other important tourist facilities, is one

of the most difficult obstacles facing the process of touristic rehabilitation of archaeological sites, especially those located in isolated geographical spots and far from the city centers. It requires great effort and expensive costs for the touristic rehabilitation of these archaeological sites, but it is one of the most important sources of national income of the country as it generates a lot of money. A part of it can be used to cover the costs of periodic restoration and maintenance of sites (Chihara, 1992). However, not all the countries can afford to rehabilitate their many sites, especially in the case of poor and developing countries, without cooperating with international organizations such as UNESCO and other international organizations interested in world heritage. It will play a key role in supporting these countries and financing projects that will rehabilitate and preserve these archaeological sites, in addition to their rehabilitation and identification, through assistance with the responsible bodies of the governments of those countries (AKTC, 2007).

1.2.6 Additional concepts and obstacles

Not all archaeological sites are suitable to be tourist sites.

There are many archeological sites in each country, dating back to different periods of time that may be of great historical and archaeological significance but these sites lack the basic conditions that make it a tourist site, which attracts visitors to it.

1- In terms of the urban structure:

In order for the archaeological site to be a tourist site, it must contain clear archaeological and urban features, such as building walls and houses, and a residential layout showing the distinctive style of architecture that prevailed in that site in the past, as often this generally attracts the tourist attention (Zealand, 1998).

Many important archaeological sites, especially in the Middle East (Syria and Iraq), have relied on clay architecture for hundreds of years, from the Sumerian period through the Aramaic and Hellenistic eras until the 1920s (Amiri, 2009). Mud was the most abundant element in those areas, and the most easy and quick in the process of construction. Although the mud is inherently fragile and non-resistant to bad weather conditions such as humidity, drought, rain, floods and storms-unlike the stone buildings,

which has a higher resistance to the unsteady climatic conditions- some of these mud-sites have been destroyed or eroded, fully or partially, and in some cases, there's nothing remaining of these buildings and palaces but their foundations and floors. And all of these things affect the clarity and esthetics of the site's features, especially from the point of view of the non-specialist visitor, which has a bad effect on tourism (Mustafa & Balaawi, 2013).

From the above, we conclude that one of the most important conditions that must be available in the archaeological site in order for it to be a tourist site, is that it must have clear elements and contain clear architecture elements to attract the attention of visitors.

2- In terms of economic feasibility

Many archaeological hills that contains very important archaeological sites, as well as archaeological sites deployed in the desert, or in the forests and very far away from major city centers, are sites at a very high level of importance. However, it is not economically or logically feasible to be rehabilitated by tourists (AIA, 2008).

One of the factors that reduces tourist visits is:

Those sites are far and difficult to reach, and that's one of the factors that reduce the tourist's desire to visit them. Also, the far locations of these sites from city centers or residential areas, makes it difficult for the staff assigned to work there to access them daily (WTTC, 2016).

These archaeological sites located in remote places which are difficult to reach, the priority is for restoration and preservation works, and protection from external influences. But the process of touristic rehabilitation is not a priority, as it is not practically and economically feasible.

Chapter III: Reconstruction of Historical Buildings

Talking about the touristic rehabilitation process in a country like Syria, still under the scourge of war, facing an unknown future, may appear an illogical idea at first glance, but from an optimistic look at the future, and from a logical point of view, the war must end, and life shall return to all parts of the country. But the most logical and important idea is that we cannot rehabilitate archaeological sites in a war-torn country without working in advance on the reconstruction of the sites and buildings and historical cities, that were devastated by the war or some of its parts. It is necessary that reconstruction be one of the first steps (Shaher, 2005), then the process of touristic rehabilitation follow, or parallel in the best conditions, and when the appropriate conditions are available. It is therefore important to review the reconstruction process and its importance, which follows the end of wars directly, and pave the way for the touristic rehabilitation process, and the other remaining works.

The increasing wars and dangers resulting from them in recent times, leads to great losses, on the whole, archaeological and historical environment, especially in the growing countries, as it impacts the economic, social and cultural levels (Majid, 2007). From the perspective of working on mitigating its effects, reducing the damage, making the reconstruction process and post-war rehabilitation more successful, efficient and less expensive, we will discuss in this section the strategies for the reconstruction of historical sites destroyed after wars and disasters, and present the theoretical concepts of reconstruction and some of their applications.

1.3.1 Reconstruction of historic buildings after wars, concepts and effects

Over the past century, and to this day, the world has witnessed many wars that have demonstrated the vulnerability of the urban and architectural heritage in general, in comparison to the destructive power of the weapons used.

With the destruction of many historical buildings and areas during the war, global awareness is dedicated to the importance of working on the reconstruction of these sites and buildings, as a human and moral responsibility (Torre, 1995), by following the

agreed architectural and heritage conservation methods, without infringement on its historical and artistic value.

First: The general concept of reconstruction of historical buildings

The term reconstruction refers to the reconstruction of lost parts of the building or the replacement of architectural elements that have serious damages, extensive repair of the service sector, and local infrastructure, and the rehabilitation of the war-affected populations. Reconstruction intervenes in a long-term development plan, taking into consideration the risk of getting destroyed again, with the possibility of reducing this risk by incorporating measures to reduce the exposure. It is not necessary that the affected elements return to their former state, or to their post-reformed status, which is known in the field of architecture as the reconstruction process (Qasimu, 2014).

The destroyed structures can be dealt with in various ways, depending on the circumstances, the destruction situation, and the available possibilities. Any temporary measures may be taken in response to a state of emergency or rehabilitation process; should be able to replace at any time, when the act can be overtaken, by a more appropriate action. Those who are responsible to the post-war reconstruction must take into consideration the local community because the community is more aware of its needs, culture, material and moral requirements, which is usually not taken into consideration by the financer. Often it is an outsider who imposes its far ideas - in many times- from the requirements of the local community (Majid, 2007).

Thus, reconstruction process refers to total or partial construction. This term can be used to refer to works carried out using modern or old materials, or both, with the aim of reconstructing the parts of destroyed components, whether it is totally or partially destroyed. The reconstruction process must be based on accurate archaeological and architectural documentation, as well as evidence, rather than speculation (Branch, 2009).

The concept of reconstruction of historic buildings as stated in the international charters

The international laws of UNESCO and ICOMOS addressed the concept of the reconstruction of historic buildings (Mustafa S. , 2010). The following are the main points:

- Charter of Venice: The Charter of Venice in Article 15, Affirms on rejecting the reconstruction of the archaeological remains discovered in the excavations (ICOMOS, 1965).

- UNESCO recommendations: UNESCO believes that there is no objection to the transfer and the reconstruction of architectural heritage, which is threatened by the public or private works, if this is the only solution to protect it. This type of reconstruction is considered a reinstallation rather than a reconstruction (ICOM-CC, 2008).

- The Australian Charter: recognizes reconstruction and considers that reconstruction is to restore the monument to as close as possible to the earliest state has had, using modern or old materials, provided that it is based on real documents, not based on guessing, and that reconstruction is necessary for its survival, revealing its cultural significance, and expressing the scarcity and the character of society (Mustafa & Balaawi, 2013).

- The Canadian Charter: consistent with the Australian Charter on the concept of reconstruction, but adding that it is a process of complete or partial reconstruction of the archaeological building in order to revive the cultural values of the building.

- The Krakow Charter of 2000: states that we must avoid reconstructing entire parts of buildings. The reconstructing of small parts, with special architectural significance, may be accepted if they are based on specific, accurate and unquestioned documentation (Qasimu, 2014).

- The Washington Charter: states on the respect for the spatial layout of the building, in terms of scale, size and area of the land, as well as using contemporary elements that have coherence with the ocean, as these elements can contribute in the enrichment of the area (Elia , 2014).

- Dresden Declaration of 1982 and lessons learned from the reconstruction of the city:

Thirty-seven years after the destruction of the city of **Dresden**, a seminar entitled "Reconstructing the ruins destroyed by war" was held, and the "Dresden Declaration" was issued, summarizing the lessons and main results of this experiment (Qasimu, 2014). This declaration is very significant as it emanates from a real experience that has created a unique state of will synergy and changed many concepts in dealing with historical buildings.

In addition, many techniques and crafts related to archaeological restoration were developed, and it gained additional importance -especially now in Syria, and in Aleppo in particular- in its historical center that exposure to unprecedented destruction due to the war.

From reading the declaration, we find that much of what is most controversial in the Syrian situation, largely mimics what was stated in the declaration, as a result and a lesson learned, including:

1. The reconstruction of the buildings is an integrated activity with the process of human reconstruction, not an alternative to it or a substitute for it.

2. The national value of the reconstruction process is deepening of the common denominator.

3. Reuse of the original materials of the destroyed buildings is necessary to indicate their originality.

4. Reconstruction should include flexibility to enable the decision makers to act accordingly.

5. There are limits that must not be exceeded in dealing with the destroyed historical areas.

Second: the effects of reconstruction operations

There are many forms of influence on the reconstruction of historical buildings and areas, some of which are calling for reconstruction, and some are the opposite. In both cases, reconstruction must be subjected to a set of requirements.

- Reasons and causes of reconstruction

There are many reasons for reconstruction operations, which can be summarized as follows:

1. Social and historical reasons

The need to continue the social function, and linking it to the memories of the old city. The reconstructed building may continue to serve its former function or be used to serve a new and different function, provided that the building should carry a symbolic and national value; to have an important role in the history of the country, such as being associated with an important event, or a person of achievement that makes him a figure having a role in society or history, and hence reconstruction is a translation of particular living phenomena through the ages (Stanley-Price, 2009).

2. Economic reasons

The touristic function of urban heritage is an important source of income. A reconstructed building can attract tourism and thus generate income for public or private authorities that manage it. With the possibility of re-use of the preserved areas, both as tourist attractions or cultural museums, the artistic, philosophical and technical values are the highlights in the areas and ancient cities, as well as inscriptions and materials used, which is an invaluable wealth (Stanley-Price, 2009).

3. Political reasons

It is through the continuous learning from the past, and recounting the history with its various events, which reflects the political situation of the cities in those times, as well as the values of the ruling and its steadiness, strength and stability.

4. Religious and ideological reasons

It is represented in keeping the religious values in urban groups, from places of worship, houses, markets and others.

5. Education and research

The reconstruction process can be rewarding for any research project, and the resulting building is an important learning tool (Stanley-Price, 2009).

6. Preservation of sites

Protecting sites from the pressures of continuous development, as well as achieving stability in the destructive and risky structures.

1.3.2. Arguments against the reconstruction of buildings and historic areas

There are numerous arguments against reconstruction operations, which can be summarized as follows:

Remarkable value of demolished buildings: they argue that keeping the building demolished as it is, can be more reminiscent of the past, than being rebuilt. The building would be better appreciated if left as a source of inspiration and as a witness to the event (Majid, 2007).

The difficulty of achieving originality: This argument says that the reconstructed building often tends to reverse the culture and time of its modern construction, rather than be a copy of the original building, because reconstruction is rarely done using the remains of the original building since it is often hard to find these remains (Torre, 1995).

They are often based on the tendency of designers, who may be prone to different influences.

Ethical issue: reconstruction is inaccurate, and thus transfers false information about the past, that misleads future generations.

Destruction of original evidence: In many reconstruction operations, original evidence cannot be accessed, but if it exists, it must be fully documented.

Disruption of landscape values: Rebuilding one or more of the destroyed buildings, can distort the visual, spatial relations between the location and surrounding environment (AKTC, 2007).

The privacy and complexity of sites with a long history: one or more historical phases may be blocked, which revolved on the site or the building. It is relatively easier to reconstruct a single period, and with the many historical stages and architectural styles that revolved on the site, it becomes difficult to reconstruct the historic site without forgetting one of the stages (Jodidio, 2011).

Cost: mostly, the reconstruction process of historical structure projects tend to be too expensive.

1.3.3. The requirements for reconstruction operations within the historical center

The process of reconstruction of historical buildings and areas has several requirements; the most important are the following:

- Reconstruction should include the improvement of housing and traditional residential buildings, with the reconstruction of historical complexes as an essential matter for the preservation of the city's identity.

- Reconstruction must be a representation of a comprehensive mobilization of society within the new construction work, with the first phase emphasizing the reconstruction of the complexes with historical heritage (Fahed, 2010).

The need to follow the archaeological style in the modern construction, and ensure harmony between modern buildings and traditional construction in the historical area, with the necessity that the reconstruction process will not threaten the heritage, or endanger it, and without resorting to imitation or historical reproduction.

Reconstruction needs a comprehensive plan, dealing with economic, social and cultural aspects, relating to the need to preserve the legacy (Jodidio, 2011)**.**

1.3.4. Intervention priorities and reconstruction stages.

The steps to preserve historical buildings and areas, and reconstructing them after wars and disasters; are sequenced as the following:

1. Priorities for intervention

The priorities for post-disaster reconstruction sequences, according to different considerations, can be categorized into multiple possibilities, depending on the point of view of the responsible authority, but generally, the following priorities are found in a framework that combines most of the views, and that is after finding a solution to the issue of temporary housing for the affected people (Shaher, 2005).

Keep the rubble to take advantage of it later.

Start the recovery of infrastructure works (AKTC, 2007).

Demolish the structurally dangerous buildings.

Store the original building materials carefully, and at a certain collecting point, where they are cleaned and numbered, so that they can be used again (AKTC, 2007).

2. Reconstruction stages of historical buildings

The process of reconstruction of the historic building goes through several major stages, starting with studying and collecting information, and ending with the development of plans and implementation.

These stages are not separate, but are intersecting and intertwined with each other (Atma, 2007), and can be summarized as the following:

- Collection of information from historical and architectural documents about the building, from history books, government records, any images or plans available about the building and its surroundings, to know the historical and architectural value of the building, and the extent to which it is permissible to change the building.

Evaluating the current construction status of the building, with an accurate description of weaknesses in building materials, such as cracks and burns, or partial or total collapse and others. (Branch, 2009)

Evaluation of the architectural and symbolic state of the building; strengths, weaknesses, elements that give the building historical value, the stages passed by the building, additions and elements lost, the original building function, and other functions passed by (Cunliffe, 2012).

Developing the proposed reconstruction plan, taking into account the local code used in the country, or any laws and regulations imposed by the municipality, and reviewing the studies containing the rules and guidelines for each case (Shaher, 2005).

Conducting tests and monitoring results before taking any action, and then implementing the scheme (Walton, 2003).

The previous stages are characterized by changing, and cannot establish the foundation for evaluating the state of the building; structural or architectural or symbolic state, but it is based primarily on the point of view of the concerned team, and previous experiences. However, the reconstruction plan is different from the architectural scheme of modern buildings. It is constrained by many international and local directives and laws, which guarantee that the historical value of the building will not be affected during reconstruction.

1.3.5. The main actors in the reconstruction process and the legislation governing them

Talking about the reconstruction of the archaeological sites destroyed after the war in general, and in the case of Syria, to name but a few.

It is necessary for those who are responsible for the process of the reconstruction, after the wars and disasters, to rely on the local government, as well as international organizations and institutions, which have a large role in the cultural development.

First is the United Nations Educational, Scientific and Cultural Organization (UNESCO), which represents the parent organization. Below are the following branches: International Council of Museums (ICOM), the International

Council of Monuments and Sites (ICOMOS) (Qasimu, 2014), the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), and the International Organization for Migration (ICOMOS).

At the beginning of 2013, UNESCO provided a center for documentation on useful technical and scientific materials, including principles, directions, restoration reports and videos, for use in the reconstruction process, and made them available to the experts, scholars and technicians in Syria, as well as non-UNESCO-affiliated organizations and institutions, such as the Aga Khan Cultural Foundation (AKTC), the German Agency for Technical Cooperation (GTZ) and the Japan International Cooperation Agency (JICA).

The participation of the local community, the training of local craftsmen and specialists, and the contribution to building local institutions in all locations are essential components for preserving what's left from historic buildings and reconstructing what was destroyed by the armed conflict in Syria.

The main objective of this process is to train calibers from the local staff and craftsmen, and to develop specialists capable in the practice of modern restoration work (Sarhan, 2014), so that the international standards for restoration work can be replicated in many Syrian sites, in addition to being more familiar with the mentality of their society, culture and their moral and material needs, which are usually not taken into consideration by the financier, which is often external and often imposes its own ideas that far from that community requirements.

Within this area, the training phase starts, the exchange of information and knowledge between local and international experts in the field of restoration, and holding seminars and courses supporting the local cultural heritage, which needs to be protected as a first step, and must precede the restoration and reconstruction work (AKTC, 2007).

1.3.6. Different directions for the reconstruction of historic buildings.

In post-war reconstruction projects, there are several approaches to dealing with the architecture of post-war historical sites. Some of these techniques focus on

functionality, some of which are more symbolic of collective memory and national identity. In general, each reconstruction situation has its own strategy in practice.

1.3.6.1. Symbolic direction witness on the events (no change)

This trend focuses on the importance and symbolism of the event, more than the importance of construction. It preserves the state of the building as it is, witnessing to the devastation that has occurred without affecting it, to remain a part of the city's memory and to show the horrors of war against human and historical value (Akasha, 2004). This trend is applicable only in certain buildings, with special symbols and good reason to maintain them as they are, due to decreasing land area and increasing population density, selected by many specialists and experts from different fields and trends.

Examples:

One of the most notable examples of the symbolic direction of reconstruction is the Kaiser Wilhelm Church "Church of the Memories" in Berlin, which was built between 1891 and 1895, on the orders of Kaiser Wilhelm II, with the aim of erecting a religious memorial in honor of his grandfather Wilhelm I. The design is a building of several Roman-style towers, with its 113-meter tower. It's the highest in the city at the time (Akasha, 2004).

The Kaiser Wilhelm Church was severely damaged by a bomb explosion in an air strike on November 23 during World War II in 1943, leaving only the remains of the tower, also known as Hullar Tasan.

In the post-war years, the remnants of the church became a symbol of the rise of Berlin from the rubble, and the tower's 68-meter-tall tower turned into a memorial against the war. The rest of the church has since been preserved as a reminder of the devastation caused by the war.

1.3.6.2. Revival trend (revival of old)

This trend is concerned with the reconstruction of the ruins of the historic buildings, as in the past, in order to preserve their existence, "the formal reconstruction of the destroyed historical architecture", preserving the memory and identity of the place, and this type of reconstruction needs to be documented in advance, with accurate and comprehensive documentation as to the state and shape of the structure before destruction, which is rarely available in most cities of the third world.

Despite the difficulty of implementing this trend, it is a necessary revival, and it is concentrated mainly in the case of historical areas and buildings of special moral and symbolic value, whose presence is important in the memory of a people and related to their identity (Aloul, 2007).

An important example of the revival direction in the reconstruction of old cities is the German city of Cologne located on the Rhine. This city was heavily bombed by the Allies, during the Second World War, and the Archaeological building of the Cathedral was the only building that survived. The city has been rebuilt, as well as its historic bridge. But a large part of the central area of Cologne, dominated by modern concrete structures, replaced the old ruined buildings (Saleh, 2011).

Initially, the idea was to rebuild the historical bridge in Mostar, which was sponsored by the Aga Khan Trust for Culture (AKTC). Only the reconstruction of the bridge, without rehabilitating and reconstructing the historical area surrounding it, has proved to be a deficient process.

Therefore, AKTC decided to conduct an integrated study of the region as a whole. Twenty-one historical sites were selected for rehabilitation, and their detailed studies were prepared according to an integrated study.

The obstacle in the beginning was to secure funding for reconstruction and rehabilitation. But reconstruction, according to historical plans, has been largely successful, within the revival direction of the reconstruction of the historic centers of cities, after the war (Amir Pasic, 2004).

Another example of the revival direction in reconstruction is the reconstruction of Bank Audi, which was rebuilt in Beirut in 2000, after it and the nearby buildings were severely damaged during the civil war. That led the reconstruction architects to pay

attention to the repetition of details, i.e.; reconstruction according to the original architectural plans, as it was before the war. Reconstruction also included the expansion of the adjacent road, searching and finding the missing capitals, and reusing them in construction in their original places.

- Another example is the building of Barakat or the so-called Yellow Building, which was built in early 1924. It was then composed of two stories of yellow sandstone, and it was completed in 1932, with two additional stories added to it. From the beginning of the war until its end in 1989, this building was severely damaged. In addition to its typical architecture, this building is an archive of the effects of civil war on its bullet-riddled walls and shells.

The building of Barakat was actually in a state of collapse, and with the start of the reconstruction phase of the capital, Beirut, this building was highlighted as an architectural heritage that must be preserved. In the summer of 2003, the Lebanese government issued instructions to transfer the ownership of the yellow building to the Municipality of Beirut after the municipality of Paris committed to funding assistance. The municipality of Paris set up a committee of architects and designers to help the Municipality of Beirut develop a rehabilitation program for the building and chose specialists for reconstruction and rehabilitation, where the municipalities of Beirut and Paris signed a cooperation agreement, including the restoration of the Yellow Building, which took place in 2006 (Kosa, 2015).

In 2008, this building was chosen to be a museum to the memory of the city of Beirut, under the name "Beirut House". Today, the building is being transformed into a civil and cultural center, a museum of Beirut that bears the memory of its past years, a museum and a cultural, artistic and cultural forum, and a place to preserve research and studies that deal with the city of Beirut throughout history, to turn the bullets and shells that penetrated the structure to a starting point for dialogue and learning from the mistakes of the past (Kosa, 2015).

1.3.6.3. Advanced direction (mixing old and modern).

This direction is an attempt to blend the identity and heritage of the old, adding the imprint of contemporary time, and adding the appropriate development, which illustrates the evolution of architecture, without affecting the identity and memory of the actual place. The defenders of this approach believe it is illogical to build architecture in the modern era, with the same style and technology and form of the ancient architecture, this is considered obliterated and abandoned the idea of formal revival. It is difficult to believe that it is the original construction, but sometimes becomes a distorted version of it, not the same, so there was a trend which tried to solve this difficult equation.

To achieve modern thought without abandoning the local identity of the city, through the process of mixing the use of old and modern methods of construction, in order to preserve the historical architecture, to keep up with the modern times, and the suitability of urgent needs of development, and the difficulty of using methods and patterns that are absolutely old (Aloul, 2007).

1.3.6.4. Modern direction

This direction is interested in finding a new architecture that did not exist before, and is not closely associated with the history and identity of the community, which has nothing to do with the identity of the place and its heritage, which was destroyed. In the wake of wars and disasters, this kind of modern architecture, often following wars and disasters, is deployed to meet the needs of efficient, rapid, low-cost and monolithic housing to shelter displaced persons. This direction has spread considerably after the World War in European countries to provide shelter for the population (Akasha, 2004). This direction is the most distant from the protection of the historical nature of the cities, so it is one of the undesirable directions to the archaeological authorities and workers in this area.

In World War II, Frankfurt, the capital of the Main River, was the target of Allied bombing, and there was little of the medieval city left as soon as bombs fell. Today, after reconstruction, Frankfurt is Germany's financial capital, with its huge and high buildings. Very few of them were built in the pre-war style (Saleh, 2011).

Conclusion

All of the above is the accumulation of a large collection of research and studies, which are concerned with the archaeological sites and historical buildings, and their unique value in the history of people and human civilization. This value alerts the people to its importance, and the importance of preserving it, was evident at the beginning of the 19th century. The first clear experience of human interest in its historical sites and its greatest interest in its restoration and conservation, using old and modern techniques, while paying attention to the importance of the site and its unique value, was that these actions should not detract from the identity and originality of this monument.

The pioneer of this experiment was the architect Gossep Valadier in 1821. At the end of the 19th century, a series of restoration works to the archaeological sites were done, which accompanied the emergence of serious directions and schools, in the field of prevention and restoration operations. The concept of restoration differed from one school to another. It is disputed that the restorer must return the archaeological site to its original state, removing all the additions and edits that occurred in other ages. Another school considered the most important goal of the restoration was to give an equal value to all the historical stages that any old building passed through, and therefore preferred to follow the concepts of preservation and protection, rather than restoration and reconstruction, which was put forward by the previous view. At the turn of the twentieth century, a new approach emerged, strongly objecting to the nature of the nineteenth-century restoration work, and believed that the historical fabric must be preserved without any interference, meaning that the preservation must be as pure as possible.

World War I had a tragic effect on most of the archaeological sites and buildings of the war. After that, the international bodies concerned with archeology was alerted to the need to preserve and protect the remaining archeological sites after the war. Thus, an international conference was held in Athens, Greece, for the architects and specialists of historical monuments at 1931, and the charter of Venice was issued. The charter defined for the first time basic principles for the preservation and protection of historic buildings.

These principles contributed to the development of a broad international movement, and the establishment of international institutions such as UNESCO, the International Center for Museums (ICOM), and the International Council of Monuments and Sites (ICOMOS).

The disaster was repeated with the Second World War, which destroyed many European countries and destroyed their historical monuments and cities. The expected response to this disaster was the activity of the reconstruction of the destroyed historical monuments. With the increasing awareness of these problems, many conferences were held, which issued documents that are considered a complement to the Charter of Venice.

The most important of these was the Venice Charter of 1964, which included all the theoretical references to the concept of preservation, which emphasized the broad definition of historical monuments, respect for the original fabric, and the contributions of all historical periods, and the use of historic buildings in useful new social functions. After that many conferences were held, and many laws and guidance documents were issued, to protect the historical monuments and sites, after World War II and to this day.

The declared goal of this global interest in archaeological sites, and the continuous pursuit by governmental and international organizations, for the protection and rehabilitation of historical and archaeological sites, is a human and cultural motive, aimed at preserving the achievements of human history: the material and cultural history. But this goal does not hide or contradict with the economic motive, which is equally important. The historical and archaeological structure of each of the countries of the world, including the historic old cities, buildings, castles, palaces, baths, markets, etc., is one of the most important tourist attractions in these countries.

Tourism of historic sites tops the ranks in the types of tourism across the world. The activeness of this type of tourism in any country is a significant economic support for this country where it pumps large amounts of foreign currency, which tourists bring when visiting the archaeological touristic sites, into any country. But to revive this kind of historical tourism in any country, this country must have certain criteria and

conditions that contribute to the revitalization of the tourism sector in general and the historical tourism sector in particular.

Safety and stability is one of the most obvious criteria for any country to be able to take tourists to its archaeological sites, but safety is not the only condition. The existence of an integrated historical tourist structure in this country is no less important than the requirements of safety and stability.

This tourism structure consists of several factors, starting with the existence of important archaeological and heritage sites in that country, and the presence of governmental authorities and institutions, working permanently and professionally to rehabilitate these archaeological sites to become touristic sites that receive visitors from everywhere, so as to ensure all the required tourist services and facilities to visit those sites are available.

Therefore, touristic rehabilitation for archaeological sites is the most important step in putting the archaeological sites on the world tourist map, and the turning point that makes the governments spend a lot of money on the archaeological sites, to maintain its safety, so that tourists will come from everywhere bringing income to those sites and contributing with the rest of the archaeological and heritage sites that are touristically rehabilitated in support of the national economy.

Cultural and media roles played by the touristic archaeological site introduce the history and civilizations of the peoples that inhabited this country to tourists and visitors. Also, the growth of the tourism sector, as a result of the touristic rehabilitation of sites, creates many opportunities for the local residents who live in the area around the touristically rehabilitated archaeological sites, to benefit positively, directly or indirectly, through their work in one of the tourist areas, or through the benefit generated by community and service development, to those sites surrounding the archaeological site that receives visitors.

As mentioned previously, the touristic rehabilitation for archaeological sites is an advanced step in the management of archaeological sites, which includes the protection and preservation of these sites, and their restoration and periodical maintenance, and the

touristic rehabilitation at the advanced stage of those sites is the final step for the site to become known and able to receive visitors.

Not all archaeological sites, which are subjected to archaeological management and maintenance work, are suitable to becoming touristic sites, and vice versa. The archaeological site must have a number of important conditions in order to be nominated for the touristic rehabilitation process. One of the most important conditions is that the site is of great historical and archaeological importance. The site must have clear architectural and aesthetic features and unique value; it may be one of the rare examples of its kind. The archaeological site needs to be in an appropriate geographical location for easy access, such as within the old cities, or near the network of public roads. The surrounding area of the archaeological site plays a large role and increases the chances of being nominated for the touristic rehabilitation process, especially if it is located in an important historic center. A condition that is no less important than its predecessors is that the archaeological site has the minimum basic infrastructure (road network, electricity, lighting, drainage networks) where the touristic rehabilitation site supports these services. It is better if they exist in advance, because it is difficult, and sometimes ineffective to reconstruct it from the beginning, if it does not already exist.

The process of touristic rehabilitation of archaeological sites, as mentioned earlier, is the culmination of the management process of archaeological and historical sites, which starts often in successive steps. The most important step is monitoring the archaeological sites and the different damages they are subjected to and then develop a preliminary study to monitor this damage, taking into account the priorities of intervention in that site and what it lacks in services and facilities to become a tourist site that receives victors.

According to the preliminary study, action plans implemented inside and around the archaeological site are carried out in order to repair and maintain the structure buildings of the site, in addition to preparing the site with all the logistical requirements and the facilities it needs (electricity, lighting, water, reception and rest areas, introduction signs, site museum, car garage ... etc).

After preparing the site to be able to receive visitors from everywhere, the media and propaganda campaigns of the site begin, through a media campaign aimed at

introducing the site and placing it on the tourist map, to attract the largest number of visitors to that site. The new touristic site is marketed through an advertising campaign that uses all media means (visual-read-audio) and social media to reach as many people as possible around the world. The importance of the media campaigns is not less important than the rest of the touristic rehabilitation steps, but it is considered the most important, because of the extraordinary and great role of the media in our current societies, and its ability to influence public opinion, thus attracting the largest number of tourists to that site.

The maintenance and restoration works, which are at the core of the archaeological site management and protection, and which are repeated periodically to maintain the safety of the touristic-rehabilitated site are necessary and important to repair the damage of the archaeological site over time, such as damage and collapse resulting from the poor conditions surrounding the site (Cassar, 2001), such as the harsh environmental conditions of the site, like wind and rain, erosion and corrosion factors, and other natural factors that are detrimental to the monument structure.

It may be the result of human action, a result of neglecting these archaeological sites without maintenance, and leave them to acts of destruction, vandalism and burning, and the greatest danger these archaeological sites face is when they are located in places of war and armed conflict, which exposes them to the worst types of distortion and destruction.

The archaeological site management and the touristic rehabilitation of it is one of the tasks that must be carried out continuously and periodically, in order to preserve the important archaeological sites in times of peace, but in case of their exposure to wars, these works stop.

It makes no sense to rehabilitate the site touristically while it is threatened with destruction as a result of hostilities. In the case of wars, the priority is to preserve those sites as much as possible, and to work to fortify them by all possible means, in an attempt to avoid the negative effects of the war as much as possible.

However, with the end of the war, the importance of restoring and preserving these archaeological sites is once again increasing, and they will be freed from the destructive effects of the war and restored to pre-war conditions.

But the maintenance and rehabilitation of sites and surrounding areas that have been devastated, is not an easy task. It must be preceded by reconstruction of the cities and areas surrounding the archaeological sites, and work to repair the war destroyed infrastructure and public utilities in those areas, parallel to the repair and restoration of these archaeological sites.

The restoration and rehabilitation of an archaeological site in a ruinous centre that does not contain the most basic types of life and services is an illogical and futile idea. In addition, the archaeological site itself may have been severely damaged, the maintenance and restoration process may be insufficient, and may require reconstruction within certain limits and conditions.

After the destruction of many historical buildings and areas during the wars, the global awareness of the importance of working on the reconstruction of these sites and buildings as a human and moral responsibility has increased, and with passing time, several concepts emerged for the reconstruction of historical buildings after the wars (Qasimu, 2014).

The most comprehensive definition for reconstruction is that it is a process of rebuilding the missing parts of the building, or replacing the severely damaged architectural elements, including an extensive repair of the service sector and local infrastructure, and rehabilitating the war-affected population. The reconstruction process is involved in a long-term development plan that includes risk plans for re-destroying once again, with the possibility of mitigating this risk by incorporating measures to mitigate the exposure.

The International Laws of UNESCO and the International Council of Monuments and Sites (ICOMOS) addressed the concept of the reconstruction of historic buildings, and issued several international charters, including the Venice Charter - NESCO's recommendations - the Australian Charter - the Canadian Charter, in the year 2000 - Washington Charter). The most important of these was the Dresden Declaration of 1982, which gave a unique example to the reconstruction of historic areas, which emphasized the reconstruction of the stone integrated with the process of human reconstruction rather than an alternative to it (Qasimu, 2014). It also stressed that the

reuse of the original materials of the destroyed buildings is necessary to indicate their originality. It also alerted that reconstruction work should include flexibility, which enables decision makers to act accordingly. These previous concepts and other concepts that have been developed recently, as well as new technologies created in the field of reconstruction of historic sites, following them accurately and with responsibility in reconstructing historical sites after war, is considered a duty that must be applied with caution and responsibility. As a result, it leads to successful and satisfactory work, at the archaeological and scientific level, and at the structural and aesthetic level, as well as on the moral level in preserving the authenticity of the monument and identity without distortion.

Like any new reformist idea of its time, there are many objections, especially from the conservative, inflexible and non-renewal elites, (that do not accept renovation). This was the case with the idea of reconstructing destroyed historical sites, which received many objections and protests, including the argument of preserving the monumental value of buildings, that keeping the building demolished as it was, would be more reminiscent of the past, than if left intact (Stanley-Price, 2009).

Another argument claimed by the owners is that it is difficult to achieve the authenticity of the destroyed building, when reconstructed, on the pretext that the modern construction reflect the style of new designers, which is different from the original building style

By using modern materials in the reconstruction, due to the difficulty of using the remains of the original building, which are often difficult to find.

Another argument claimed that reconstruction of the archaeological sites is a moral issue as it may be an inaccurate reconstruction of the site, causing the transmission of false information about the past, and thus mislead future generations, including claims that reconstruction of destroyed historic sites may destroy some of the original evidence, that one of the historical phases of the archaeological site may overlook a certain historical phase.

The most realistic argument of the previous arguments, is the high cost, as reconstruction projects of historical buildings tend to be very expensive.

As a result of previous arguments, the reconstruction process of post-war destroyed historic sites face several stringent requirements for carrying out its work. These requirements laid out the general frameworks that must be followed in the implementation of the reconstruction work to consolidate the previous arguments against them and to carry out its work accurately and professionally.

One of the most important of these requirements is that the reconstruction needs a comprehensive plan, which deals with economic, social and cultural aspects, leading to the preservation of archaeological heritage. The archeological style must be followed in modern construction, and harmony (coherence) between modern buildings and traditional construction in the historic center should be maintained.

Reconstruction should not threaten heritage or jeopardize (endanger) it, without resorting to tradition or historical reproduction. Reconstruction should include the improvement of housing and traditional residential buildings, with the reconstruction of historical complexes, as essential to the preservation of the city's identity. Reconstruction must also be a translation of a comprehensive mobilization of society within the new construction work, i.e., involving the local community in the reconstruction of its historic sites, to create new opportunities, and to make the local inhabitants feel a sense of responsibility towards its inheritance, and a genuine partner in taking the decision and the protection of its archaeological sites. The first phase of reconstruction should also focus on rebuilding communities with historical heritage.

Finally, it is true to say that archaeological sites, historical buildings in each country, are considered an important treasure, and an archive of the memory and achievements of human civilization. Each country must preserve and protect this treasure by protecting and preserving its historic sites through periodic restoration and maintenance, by maintaining its safety, and on the other hand, each country must benefit from its treasures (heritage sites), and invest in lucrative projects such as tourism, which brings civilization and economic benefits to it and its peoples.

The touristic rehabilitation of archaeological sites, especially after the war, is the victory of those sites and their cultural values. The best way to protect and preserve those sites is to optimally invest in the tourism process, which benefits the great economy of the

countries, and thus creates job opportunities for citizens, contributing significantly to the development of the infrastructure and community structure, As well as providing a stable budget that contributes to the conservation and restoration of these archaeological sites and to the rehabilitation of new archaeological sites. This is therefore a great benefit to humans and stone.

After an in-depth study of theoretical Reviews, we could conclude a number of general and fundamental criteria that must be applied in each of the management projects of the archaeological sites and the touristic rehabilitation for these sites, and the reconstruction projects in the historical centers after the wars. The good implementation of these standards in these projects will determine the success rate of those projects or failure generally.

A- Criteria for the successful management and protection of archaeological sites and historic buildings

For the success of the management and well protection of archaeological sites and historic buildings, the following criteria must be followed:

1- **Provide a comprehensive understanding of the nature of the site, and the causes of the damage suffered**, By understanding the structural, historical and archaeological nature of the site, its location in the wider landscape, and the factors that led to its current state, by carrying out in-depth analytical studies that will lead to understand each problem before attempting any corrective action, and then address recommendations that specify the conservation requirements and the necessary administrative activities Which would lead to the required repairs.

2- **Respect the historical and aesthetic value of heritage buildings,** without neglecting the pattern of any era of historical times that the historical building had (ICOMOS, 1965).

3- **Preservation of historic buildings**, and giving attention to them in a way that leads to the continuity of their lives and, and reusing them, when possible, with functions that respect their historical and artistic nature (ICOMOS, 1965).
4- **Preserve the aesthetic and distinguish of the historic location**, within the surrounding area, by removing all the visually contaminated violations, and environment contaminating industries, within the historical area (ICOMOS, 1965).
5- **Issuing a comprehensive database of the historical site**, that Includes all archaeological and historical studies about the site, the discoveries of the excavations, the maintenance and restoration works that have been done of site's parts, and update the database periodically, showing each additional action taken at the site, to give a more comprehensive understanding of the site, and the changes that occurred.
6- **Coordination between maintenance and restoration work, and ongoing excavations at the site,** Solving the problems resulting from their respective conflicts, and finding solutions for parallelism and integration between both maintenance and excavation, so as not to affect one another.
7- **Create a continuous monitoring mechanism for the archaeological site**, it periodically collects information about the site and, over time, analyzes this information to detect changes in the site. This facilitates the identification of problems and damage that threaten the archaeological structures frequently and identify areas of weakness. And then Practical and administrative action are taken When necessary, to stop or reduce problems. This monitoring process also includes monitoring of changes in external pressures applied to Site, changes in site conditions, and monitoring of the efficiency of administrative procedures related to the conservation of the site.

B) Touristic rehabilitation standards for archaeological sites and historical buildings

For the success of the touristic rehabilitation of the archaeological sites and the historical buildings to the fullest, following criteria must be met:

1- **Choose the best historical and archaeological sites, to be subjected for the touristic rehabilitation process,** According to several criteria and considerations, so that it has at least one of the values (building age, architectural and aesthetic value, historical value, social value, religious value, environmental value, Uniqueness and scarcity, political value, and touristic value), taking into account the appropriate cost of restoration and maintenance work, and the possibility of carrying out repairs and maintenance, without adversely affecting the heritage value of the building. Having as much information and accurate data as possible, on the historical building, which in turn affects the accuracy, ease, and success of maintenance and rehabilitation.
2- **Stopping the damage and deterioration actions that the historic buildings are exposed to**, which lead to the destruction of some of their parts, and cease using them, and thus their gradual erosion (Mackintosh, 2001).
3- **Rehabilitation of the surrounding environment of the historical site**, if the rehabilitation of the historical site is not accompanied with the rehabilitation of the surrounding area, the touristic rehabilitation process will be incomplete (Jodidio, 2011).
4- **Improvement of public facilities and infrastructure in the historical site and in the surrounding areas,** where the success of the touristic rehabilitation of the site, conditional on the successful improvement of infrastructure both inside and outside the site (AIA, 2008).
5- **To ensure the security and safety of visitors,** where all the procedures followed in the process of the touristic rehabilitation of the historic site must ensure the security and safety of the visitors.
6- **Provide comfort and enjoyment for visitors**, where all procedures, applied within the process of touristic rehabilitation of the historical site and its surrounding area, and its service additions and important facilities should provide maximum comfort and luxury for the visitors.
7- **Ease of movement within the historical site, and in the surrounding area**, by designing safe and smooth paths within the site, which connects its important parts. And also designing a comfortable and comprehensive tour within the site, and its surrounding area (Rogerson, 2011).

8- **Harmony and elegance in the urban design of the historical site**, **while preserving the archaeological nature of the site**, so that all the services additions of facilities and recreational elements, which are added within the historical site and its surroundings, have an elegant design, and similar to the archaeological style of the site, so as not to encroach the authenticity of the site, or its aesthetic value (Jodidio, 2011).

9- **Using historic buildings in new functions,** where it is advisable to rehabilitate the historic building, to occupy a new function, similar to its old function, or other function commensurate with the modern time, while respecting the historical nature of the building, thus saving a lot of resources, in addition ensuring the survival and continuity of the building (AKTC, 2007).

10- **Developing the local communities surrounding the historic site and improving the quality of life in these areas**, where any of the touristic rehabilitation works for the historical sites that ignore the development of the area surrounding the archaeological site and doesn't work on improving the quality of life of the local population, Is a failed worthless act. The rehabilitation system must focus in tandem on the historical site and the local population surrounding it so that the purpose of the touristic rehabilitation of the site is to maintain the site, support tourism and improve the living conditions of the inhabitants of the surrounding areas (Jodidio, 2011).

11- **The participation of the local population in the various works within the process of the touristic rehabilitation of historical sites**, where the local population, in the area around the historical site, must be involved in the work of restoration and maintenance, to create new job opportunities, and to make them partners in the implementation of the work required, Improve the living and cultural standards of the local population and raise their awareness of the need to preserve historical sites (Culture, 2001).

12- **An effective and successful media campaign for a better marketing of the historical sites that are touristically-rehabilitated, ensuring attracting as many visitors as possible to the site.**

C) Standard of reconstruction of archaeological sites and historical buildings after disasters

To ensure the success of the reconstruction process in historical sites destroyed after wars, the following criteria must be followed:

1- **The reconstruction process in the historic center, after disasters, should be subjected to the recommendations of the international conventions issued in this regard, which most of them approved that:**

the reconstruction process in the destroyed historical sites is to restore the monument as close as possible to its previous state, Using modern or old building materials, provided that it is based on real documents, not based on speculation (ICOM-CC, 2008), and also the reconstruction should be necessary for its survival and reveal its cultural significance. In addition, the reconstruction process may also be a partial or complete reconstruction of the archaeological building, in order to revive the cultural values of the building. Recommendations also emphasized on avoiding the reconstruction of entire parts of buildings, and the reconstruction of small parts, with special architectural significance, may be accepted, provided that they are based on accurate, precise and unquestioned documentation. The reconstruction process should respect the spatial layout of the building, in terms of measurements, size, and area of the land, and the use of modern elements and additions, coherent with the historical surroundings of the site, so that these additions will enrich the surrounding area.

2- **The reconstruction of the historic site in tandem with the community development of the surrounding population,** the reconstruction of stone is an integrated activity with the rehabilitation of people, not an opposite or alternative to it.
3- **Reusing the original building materials of the destroyed buildings, in the process of reconstruction of these buildings**, is necessary to indicate its authenticity.
4- **Flexibility and creativity, in the process of reconstruction within the historical center**, so that this flexibility enables decision makers, to act freely, and to create more appropriate solutions to the condition of each historical site,

without complying to rigid laws, while preserving the authenticity of the historical site in the same time.

5- **Following the archeological style in the modern construction, and ensure harmony between modern and traditional buildings in the historical center,** provided that the reconstruction process should not lead to threatening of heritage, and endangering it, without resorting to the imitation or historical copying (ICOMOS, 1965).

6- **The improvement of traditional residential buildings**, in parallel with the reconstruction of historical complexes, it is essential to preserve the identity of the city.

7- **The reconstruction work in the historical site destroyed by war is parallel to the touristic rehabilitation process of the site**. Where the reconstruction of the historical site is part of the touristic rehabilitation process. Implementing both processes simultaneously save the time and effort, and the financial resources required to accomplish the work, and accelerate the recovery and renaissance of the area around the site.

PART II: THE SYRIAN REALITY

The first chapter of this section discusses the ancient history of Syria, which extends for hundreds of thousands of years, and the successive civilizations from the ancient stone ages to the present day; the most important achievements of the Neolithic revolution (Shaw & Jameson, 1999), which changed the history of mankind by the discovery of agriculture, accompanied by human stability; the construction of houses; the domestication of cattle; the pottery industry; and the beginning of the emergence of villages and the primitive cities.

Then the beginning of historical eras, which includes the invention of writing, in the form of a cuneiform section, and later it has been converted it into an alphabet. That alphabet was considered the most important achievement of Syrian in the ancient Near East that was given to mankind, which facilitated the writing process, and spread science and culture among different peoples.

Syria has distinguished for its literary and artistic achievements that its traces remain to this day in various archaeological sites which spread throughout the lands (Joudallah, 1999).

It also reviews the most important historical events that took place in Syria, and the successive civilizations that settled in its lands: including the ancient Stone Age, the Sumerian and Akkadian periods in the fourth millennium BC, the successive events until the entry of the Romans into Syria in 64 BC the domination of Muslims on Syria (Joudallah, 1999), the succession of wars and conflicts, in order to share influence on its territory.

In this chapter, we discuss the archaeological work in Syria since the beginning of the 19th century by the first archeological explorers, the development of archeological work in Syria, the most important multinational missions that worked in various Syrian archaeological sites, and the great importance of the Directorate-General of Antiquities and Museums DGAM, along with its effective role from its establishment until the start of the Syrian crisis, and its continuous work to preserve the Syrian heritage.

The discussion also includes the impact of the war on archaeological sites and historical buildings, and the impact of wars and disasters on the urban environment. We will give a brief overview of the impact of armed conflicts on historic buildings in Syria over the past seven years. Moreover, we discuss the need to protect historic buildings in the case of armed conflicts, and the national and international responsibility to protect the heritage and historic buildings, and what intergovernmental committees are responsible for the protection of cultural and natural heritage.
We also give an overview of the most important conventions that have been issued to protect historic buildings in the case of armed conflicts, and the legal frameworks that deal with historic buildings in Syria that are in place to protect them in times of war.

The second chapter of this section discusses the definition of the concept of heritage in general, the Syrian heritage sites, their importance, and the main authorities responsible for their maintenance and preservation. These main authorities are represented by the Directorate-General of Antiquities and Museums DGAM and its regional administrations are in Damascus. We also discuss their important and vital role in preserving the Syrian archaeological heritage before the war, and their important role in protecting museums and archaeological sites from the theft and destruction risks, and within their limited capabilities, during the Syrian crisis.

The talk also includes the catastrophic effects of the war on the Syrian archaeological sites, the types and causes of the damage to the archaeological sites, which vary between the effects of bombing and demolition, the intentional destruction of archaeological sites by the jihadist-takfirist, and theft and looting of these sites, in addition to modern urban excesses at the expense of historical sites, and the destruction and damage resulting from neglecting the archaeological sites, that needs periodic restoration operations and maintenance to protect them.

We also discuss the different types of Syrian archaeological sites that were damaged by the war, starting with the Syrian national heritage sites, the Syrian heritage sites listed in the World Heritage List, and ending with the national museums and the sites' museums.

The discussion also includes the international responses and their attempts to protect the Syrian archaeological sites and deals with the reality of the Syrian war from the very beginning and the limited -but also important- role played by UNESCO during the last years of the Syrian war.

Finally, we discuss the Syrian Heritage Sites listed on the World Heritage List that were recently included in the World Heritage List under threat due to the damage resulting from the Syrian war. In addition, included is an historical overview of each location and its situation before and during the Syrian war, the important procedures taken by DGAM in protecting those sites before, during and after the damage, and the procedures they have taken after the danger has been removed from those sites.

Chapter I: An Overview of the Archaeological History of Syria

2.1.1. Introduction

Over the past 50 years, remarkable changes have been made in archeology in Syria. The rich archaeological heritage of the region and the intensive demands in the scientific and archeological communities reveal the secrets of the ancient Near East and identify the effect of the history of humanity as a witness and direct influencer at the same time in all historical eras (Akkermans, 2003). In the context of contemporary political circumstances, and due to the difficulty of reaching Iran and Iraq and the difficulty of the archaeological work in them, in the second half of the twentieth century Syria became a major focus of fieldwork in the Near East. Numerous multinational exploration projects have been completed in different Syrian archaeological sites, resulting in a continuous flow of information and unique archaeological outcomes, which have greatly contributed to a more comprehensive and broader understanding of the history of the ancient Near East (Abdulkarim, 2016).

Since ancient times, the Syrian land has been the source of many diverse civilizations, which were innovative in many fields of arts, sciences, architecture and other areas of life.

Syria has an exceptional geographical location at the crossroads of three continents: Asia, Europe and Africa.

Many kingdoms were founded on the land of ancient Syria and many wars were fought in its territory, which were inhabited by humans for thousands of years., This same land was inhabited by a prehistoric man more than a hundred thousand years ago, where he can be traced back in many of its sites, more than 33 different civilizations, and their various sites on the Syrian territory.

Syria has more than 5000 archaeological sites, dating back to different periods of time and civilizations (Akkermans, 2003). Many peoples and civilizations, most notably the Akkadian, Assyrian, Amorian, Phoenician, Babylonian, Hittite, Aramaic, and other civilizations inhabited the land of ancient Syria.

The land of Syria has always been a region of continuous conflict between the greatest civilizations since ancient times. Its lands witnessed fierce battles between the Persians and the Greeks, the Persians-Sassanids and Romans in the later period, and between the Arabs and Romans., Syria is still a land of continuous conflicts and international strife due its geographical location (Joudallah, 1999).

Some of the most famous kingdoms of Syria are Mari, Dura-Europos, Palmyra, Ebla, Amrit, Ugarit, Qatna, etc (shaaban, 2012).

Syria is rich in successive civilizations revealed by the excavations and translation of the ancient languages of the clay tablets found in its various archaeological sites and in neighboring countries. Which made Syria more aware of its past, the peoples who inhabited it, and the most significant historical events it experienced. Its museums also demonstrate the sequence, continuity and importance of civilizations that were based on the Syrian lands. Syria influenced the neighboring countries and was influenced by them too, which helped establish the Eastern civilization, and its influence on the Western civilization later (Joudallah, 1999).

Syria has long been the "crossroads of civilization" as its located at the main traffic artery in the eastern Mediterranean and the Near East where convoys and military expeditions crossed its land moving between the economic and political poles of the ancient Near East, from Egypt to Anatolia, and from the Mediterranean to Mesopotamia.

The presence of Syria on the international roads links the three continents together, is a commercial corridor between the interior and the sea between the West and East, is an important point on the famous Silk Road, and is a central point in which the pilgrimage routes pass through for the three heavenly religions (Judaism, Christianity, and Islam). Due to its location, Syria had an intellectual and humane cultural character at all levels.

Is Syria an independent geographical or cultural entity? In fact, Syria has embodied geographical and cultural autonomy distinct from Mesopotamia, Anatolia, and other neighboring regions. On the other hand, the nature of the rain-fed agricultural plains in the Syrian interior is similar to that of the slimy rain-fed plains in southern Mesopotamia and the high plateaus of Anatolia. The plains of rain-fed agriculture in Syria have clearly contributed to the support of populations, communities and political

units on a larger scale compared to the nature of Palestine and Lebanon, which are characterized by their diverse terrain and their small-scale agricultural valleys (Joudallah, 1999).

Ancient Syria, the land inhabited by primitive humans whose remains are still in (Yabrud), (Abu Hurayrah), (Tal Al-Murebat), and other sites of prehistoric times, continue to be inhabited frequently and to this day.

Since the beginning of the Neolithic period, Syria has provided some of the oldest evidence in the world on the beginning of the stable agricultural life, and was the most prominent contributor to the understanding of how this phenomenon occurred and why it occurred.

In the late Neolithic period, private property, social inequality, and economic specialization became increasingly apparent, paving the way for the growth of the first cities. There was also evidence of complex societies, which formed a similar model to those known in southern Mesopotamia, and sometimes gave more evidence and understanding of the nature of life in that period than the societies of southern Mesopotamia itself.

In the second half of the fourth millennium BC, the Amorites who inhabited the Syrian land had a unique experience in building an almost complete civilization with all its political, economic and societal features. The Syrian land also witnessed the oldest artistic experiment, the discovery of a sculpture school, which was found within the ruins of the city of Mari (shaaban, 2012). The Syrian land also contained the oldest spiritual creeds, ancient religions, intellectual ideologies, and philosophical and mythological topics. The Aramaic language of more than 3,000 years, spoken by Christ, is still spoken today in three Syrian villages (Maaloula, Jbaydine, Bakha'), 65 km north of the capital Damascus.

The oldest of the musical lines was discovered in Ugarit, which were carved on clay tablets dating back to the 14th century BC. It was difficult to understand until other tablets were discovered in the Iraqi city of Nineveh, which helped archaeologists decode one of the oldest musical notes in the history of mankind. This note was a religious song played on a stringed musical instrument similar to the guitar today. It was called (Canara) which was also one of the creations of ancient Syrian east.

There was a statue of the white Alabaster of the temple's singer (Ornina) found in the temple of Ishtar, in the ancient city of Mari, which dates back to the beginning of the second millennium BC. Many inscriptions and drawings for other musical instruments were found, such as a drum machine, double flute, tambour and the harp. The oldest form of the current Oud was also found on a fresco in the western palace of Al-Hier in the Syrian Desert, dating back to the eighth century AD .(shaaban, 2012)

In one of the archaeological sites on the Syrian coast, one of the earliest written alphabets throughout history was discovered during the excavations in 1928.
It was found in one of the royal palace halls of the archaeological site of Ugarit, dating back to the 14th century BC. The strange cuneiform language was written on clay tablets, later identified as an alphabet consisting of 30 cuneiform letters. This alphabet was modified with time to become 22 characters and was written from left to right, separated by a vertical cuneiform sign. The alphabet was an advanced stage from the evolution of the photography writing to a syllabic writing, and then it evolved into its abbreviated alphabetical form to make it easier to write on the clay tablets and for larger segments of people to learn (Joudallah, 1999).
The Ugaritic texts were found in Ras Shamra, Ras Hani (Perit), and in various locations of Syria, Lebanon, Palestine, and Cyprus, all of which were engraved on clay tablets. This indicates the vast areas that the Kingdom of Ugarit controlled. Even if it was not political control, it had intellectual and cultural influences. Most of these texts were in the Phoenician dialect and dealt with administrative and intellectual subjects, and religious mythology. At the same time, the Akkadian-Amurian language was still the language of external correspondences (Joudallah, 1999).
One of the other alphabets originated in ancient Syria was the Aramaic alphabet, which evolved from the writing of the Phoenician of Byblos. The Aramaic letters took several forms that evolved over time depending on where they spread, such as the square Aramaic writings, which developed the Nabataean alphabet, the Tadmuria, and Hebrew. The shape of the Aramaic letters, known as the smooth letters, evolved into Syriac font. Aramaic also developed other languages, including Nabatiyeh, Hebrew, and Arabic (Joudallah, 1999). The Aramaic language spread to vast geographical areas, reaching the eastern border of China, and the Aramaic people and their Aramaic language had a

unique cultural role, because the Aramaic language had become the language of trading and diplomacy, and became the most widespread language in the ancient world during the first millennium BC. Aramaic influenced and was influenced by the people of the regions in which it spread, and we have the so-called international Aramaic, which prevailed under the modern Assyrian Empire and during the Chaldean rule (612-539 BC). It also became the official language of the Persian-Achaemenid Empire between (539-333 BC). The Old Testament was written in Aramaic, and the Babylonian Aramaic was used to write the (Talmud), and the Mandaeism's Aramaic developed the Tadmuria writing and what is known as Hadryia Aramaic according to Hadar city near Al-Mosul, Iraq.

The unique importance of the alphabet, which the ancient Syrian civilizations contributed to the development and dissemination of it, was the beginning of the democratic stages. This contributed to the achievement of equality between individuals, enabling everyone to learn and educate. It was of an equal importance to the invention of printing after three thousand years, because it is a simple, written system which all members of society can easily learn (Joudallah, 1999), so the number of learners increase, and thus developed cultural and civilizational identity of the society at the time.

There is a scientific opinion argued that the Greeks developed their alphabet, which they transmitted from the Phoenicians, who went from Syria to Europe as merchants. The Greeks added the phonetic letters to that alphabet at the end of the fifth century BC, where the Greeks had their own alphabets, and later became the basis of the alphabet in the West.

The Romans took the alphabet from the Greeks, when Greece became part of the Roman Empire in 164 BC, where Greek was the language of science throughout the empire. This alphabet, with some modifications, was spread in most of the countries that were later seized by the Roman Empire (shaaban, 2012).

2.1.2. An overview of the most important successive civilizations of Syria

Syria, with its topography, nature and numerous archaeological sites, is considered a typical museum of all time periods because many human civilizations developed on its lands or have come from neighboring lands and settled in it or temporarily inhabited it for trade.

The successive events until the entry of the Romans into Syria in 64 BC the domination of Muslims on Syria, the succession of wars and conflicts, in order to share influence on its territory. From the Paleolithic period, specifically between 600 and 500 thousand years, there are several archaeological sites dating back to that period, including the site of Al-Lataminah and the Euphrates basin, and some sites on the banks of the Nahr al-Kabir al-Shamali, and the site of Sett Markho. The archaeological site (Abu Hamda) on the banks of the Euphrates dates back to 200,000 years (Shaw & Jameson, 1999). In the period between 100-35 thousand years, we have the sites (Al-Shir, Yabrud,Gorf Alagla, Al-Dawara Cave, Al-Qum), in addition to the effects of cave dwelling and tool industry, and the emergence of the first funerary rites.

There are also sites in Syria dating back to 35-10 thousand years, where the oldest appearance of the sane man is accompanied by the emergence of traces of sculpture, decoration, fishing paintings in the caves, and some industries related to fishing tools. Examples of those sites are (Dederiyeh Cave) Afrin, northern Syria, Dederiyeh Cave II, the Qaramel Cave, and Tal Al-Aswad Site (Shaw & Jameson, 1999).

15000 BC, with the end of the Paleolithic (Ahmad, 2006), and the beginning of the Mesolithic period, one of the most important sites dating back to that period, is the site of Kawom oasis, and the emergence of the Kebarian civilization. This period is characterized by the emergence of some types of grains, such as wheat and barley, with some tools that indicate temporary stability of humans in primitive villages.

At the beginning of the tenth millennium BC, the Natufian civilization emerged from the Euphrates to the Nile, and accompanied the fishing villages. The circular houses were dug in the ground for storing wild grains, besides finding of snails and the traces of fishing. One of the most important archaeological sites is the (Mureybet site) (Akkermans, 2003).

At the beginning of the eighth millennium BC, many shreds of evidence were found about the beginning of agriculture in Palestine, Damascus, the site of Tal Al-Aswad, and Mureybet.

The emergence of rectangular houses made of clay instead of circular houses began to expand in the primitive villages and expanded up to about 3 hectares (Akkermans, 2003).

At the beginning of the seventh millennium BC, with the beginning of the Neolithic period (Shaw & Jameson, 1999), there was a clear appearance of the spread of agriculture in the Syrian sites, the domestication of animals on the farms, and the houses became rectangular with internal divisions and their floors were painted with plaster.

The most important archaeological sites of that period, Tal Al-Ramad, Tal Baqaras, the last layer of Ras Shamra, and Al Kawom Oasis were once again inhabited, having been abandoned since the Stone Age.

The middle of the seventh millennium BC was the beginning of the emergence of Syrian hand-made pottery. This industry was considered one of the most important achievements of the Neolithic revolution, after the discovery of agriculture. This industry spread in many Syrian locations, from Tal Al-Ramad near Damascus, to Al Amuk plain on the banks of the Orontes River, and on the banks of the Khabour in the Syrian east. This period was distinguished by its polished, dark, reddish-brown handmade pottery (Akkermans, 2003).

The beginning of the sixth millennium BC marked the beginning of the emergence of the states, the evolution of the agricultural movement, the emergence of some advanced industries, the decorated pottery of Tal Al-Halaf, and the emergence of the first worship with its symbolic themes, such as the mother goddess, the gods, and the symbol of the bull (Akkermans, 2003).

The beginning of the fifth millennium BC marked the emergence of the civilization of Ubaid and the emergence of new techniques and types of distinguished pottery with Mesopotamian influences, which differed from the pottery of Halaf. There has been a distinction between the construction of private homes in villages and public buildings of the religious nature, and the development of trade and the emergence of the beginning

of writing. The most important archaeological sites of that period is Ras Shamra, and the Amuk plain (Akkermans, 2003).

The beginning of the fourth millennium BC until its end, the era of Uruk or what is known as the Warkā civilization, marked the emergence of the first large temples, and the spread of Sumerian settlements in Syria, in Tal Brak, Aroda Mountain, Habbubah Kabir, and Biblos (Shaw & Jameson, 1999).

At the beginning of the third millennium the Kingdom of Ebla (Tal Mardikh), in the Governorate of Idlib in the north of Syria, built its civilization benefiting from its position on the road of trade, with the Sumerians and Akadin in Mesopotamia. The Kingdom of Ebla spread its influence from Anatolia in the north, the Sinai Peninsula in the south, Euphrates in the east, and the Mediterranean coast in the west.

Shortly before the emergence of Ebla, the Mari kingdom emerged at 2900 BC, on the banks of the Euphrates River, 11 km east of the city of Albuqmal on the Iraqi-Syrian border. And in the middle of the third millennium BC the Amorite and Canaanite tribes invaded Syria and the Middle Euphrates. (shaaban, 2012).

Ebla was occupied by Naram-Sin 2150 BC, and then the Getas tries destroyed Akad.

At the beginning of the second millennium BC, Babylonians and Amorites ruled most of Syria. The Canaanites spread in central and southern Syria in 1900 BC and their kingdoms spread on the Syrian coast.

The Babylonians and their capital Babel, the kingdoms of Assyria, Mari Iamade, Alalakh, and Qatna, emerged in 1870 BC.

Hamourabi destroyed Mari in 1759 BC. Assyrians and Egyptians conquered Syria in 1700BC. The Destruction of the city of Ebla was in 1600 BC. The first Babylonian era ended with the conquest of the Hittites in 1595 BC, and the Hittites continued to colonize Syria until 1200 BC (Joudallah, 1999).

The middle of the second millennium BC, the Arameans spread into the centre and north of Syria. In 1490 BC, Egyptians and Mitanni fought to control the Syrian land. In 1400 BC, Egyptians entered Syria. The Hittites tribes defeated the Mitanis in 1350 BC. In 1285 BC, the Battle of Kadesh broke out between the Egyptians and the Hittites who shared control over Syria. In 1200 BC, a famine in Anatolia weakened the Hittites, and

the peoples of the sea invaded the Mediterranean coasts from Anatolia to Egypt, and destroyed the coastal cities.

In 1200 BC, the Aramaeans spread into Syria, and they established their kingdoms there. In 950 AD, Aramaic with big influence in Damascus and northern Syria, in the 8th century BC, the Assyrians invaded Syria, and control Syria land till the end of their rule there in 612 BC.

In the early 6th century BC a large part of Syria came under the Chaldean rule. At the end of the sixth century BC, the Persians were led by Cyrus and they ended the Chaldean rule in Syria, until Alexander the Macedonian entered Syria in 332 BC (Joudallah, 1999). He defeated the Persians. After the death of Alexander in 323 BC, his army commanders shared control over the land occupied by Alexander's army. Syria was under control of the Salukis led by Seleuco I Nicator, who founded the state of the Seleucid in northern Syria and Rafidain. In 64 BC, the Romans entered Syria under the leadership of Pompeu, after which Syria became a Roman province.

In the middle of the third century AD, the influence of Palmera took on growth and expansion, reaching Egypt and Minor Asia under the leadership of their queen Zenobia. This continued until 272 AD, when the Roman Emperor Orlian attacked the city of Palmyra and seized it, capturing its queen Zenobia (Joudallah, 1999).

In the beginning of the third century AD, Constantine the Great Emperor of Rome, gave them freedom to convert to Christianity, and in 330 AD Byzantium became the capital of the Roman Empire, becoming the Byzantine Empire later. In 450 AD, the Sassanids led by Cyrus the First conquered Antioch. After that, Damascus fell under Sassanian control, until retrieved by the Byzantines led by their emperor, Heraclius 627 AD (shaaban, 2012).

The Muslims Arabs came to Syria in 636 AD and expelled the Byzantines from Syria after the Battle of Yarmouk. Between 661-750m Syria, under the Umayyad rule, expelled them by Abbasids, who controlled Syria until 1258.

The rulers successively changed Syria, the Hamdans in northern Syria, al Ikhshidiyun, Fatimids, Seljuks, successive Crusades, Zangi rule, then Ayyubid rule, followed by Mamluk rule, first Mongol invasion, then the Mamluks restored the rule in Syria, followed by the second Mongol invasion led by Tamerlane. The Ottomans conquered Syria at the end of the 16th century AD and took control of it for 400 years, until the

Ottoman occupation ended in 1918 (Joudallah, 1999). Syria has fallen under the French colonialism in 1920s, which continued, until the evacuation of the last French soldier from its territory on April 17, 1946.

Even after the evacuation of the French colonizer from Syria, the situation in Syria did not stabilize, where military coups were repeated, until the end of the sixties in the last century.

Syria witnessed a period of relative stability from 1970 until the beginning of the catastrophic war that struck it in early 2011. The fierce terrorist attack it was subjected to destroyed large parts of its cities and infrastructure, archaeological and cultural sites. And there was great human loss because the Syrians were victims of this disaster, which is almost eight years old and has not yet ended.

2.1.3. Archaeological work in Syria

Archaeological fieldwork in the Middle East began in the mid-nineteenth century by adventurers and treasure hunters, and this period accompanies the European colonial aspirations of the Middle East. Initially, the main focus was on Mesopotamia, the home of the Assyrian, Babylonian, and Sumerian civilizations, and on the other hand, the focus was on ancient Egypt (Akkermans, 2003).

Syria was clearly absent in that period from the archaeological interest and research, apparently because of the absence of large and obvious archeological sites in light of the famous civilizations that had been historically documented, as in the case of the pyramids of Egypt.

One of the earliest discoveries made in Syria was in the Lower Khabur valley, specifically in Tal Ajaja, conducted by the British Archaeologist (Sir Austen Henry Layard), who was interested in the Assyrian monuments and the Assyrian capitals of Nineveh and Nimrod in the north of Mesopotamia. In 1850, he supervised the short excavations at Tal Ajaja in the context of his interest in uncovering Assyrian sculptures. These excavations were the early discoveries in pre-Hellenistic Syria (Ahmad, 2006).

At the turn of the twentieth century, the Iron Age sites in Syria attracted the attention of prospectors because of the exceptional and obvious examples of the huge sculpture discovered on its land surfaces. Two main German projects were opened:

Zincirli (Sam'al) in southeastern Turkey: The excavation was conducted by Felix von Luschan,

And, Tal Halaf near the source of the Khabur River: The excavation was led by Max von Oppenheim. Oppenheim's discovery of a diverse and attractive collection of prehistoric colored pottery in Tal Halfa drew attention to the oldest civilizations in Syria. The British competed with the Germans to influence the dilapidated Ottoman Empire at that time, and conducted excavations in the capital of the Third Iron Age (Carchemish) in northern Syria. The Archaeologist D.G. Hogarth (David George Hogarth), the Archaeologist Leonard Woolley, and T.E. "Lawrence of Arabia participated in the excavation (Akkermans, 2003).

Excavations conducted at this early stage in Syrian archeology were often accurate when it came to the recording of architectural data, but they sometimes neglected archaeological remains of a great artistic or historical significance.

After the imposition of the French mandate on Syria in the 1920s, the Directorate General of Antiquities was established. The French archaeologists carried out excavations in many Syrian sites. In this period, the focus was on the major archaeological cities, which were of an ancient fame, and whose excavations led to important significant written remains. The most important of these archaeological sites were Al-Moshrafa (Qatna), Tal El-Naby Mando (Kendesh), Arslan Tash (Hadato) and Tal Ahmer (Til-Barsib).

With the beginning of the 1940s, long-term exploration projects began, and at the forefront was Ras Shamra site (Ugarit), which began its excavation in 1929, and the site of Tal Al-Harir (Marie), which began its excavation in 1933.

Excavations continued at both sites, with very few interruptions, until they stopped at the beginning of the Syrian crisis. British archaeologists returned to the scene in the 1930s, when exploration in Iraq became relatively unfavorable. Woolley conducted

excavations in Al Mina and Alalakh site in the coastal region, while Max Mallowan, who worked with his wife Agatha Christie, explored the Upper Khabur plains. He first excavated an early prehistoric sequence in Chagar Bazar, then revealed the massive buildings of the fourth and third millennium in Tal Brak.

The American involvement began in the University of Chicago's investigations in Amuq plain. The excavations were conducted in the city of the Iron Age in Tal Tayinat by the archaeologist Robert J. Braidwood. In Hama Castle, the Danish mission uncovered ancient Iron Age architecture and a long archaeological sequence extending to the Neolithic period (Akkermans, 2003).

The outbreak of World War II led to the cessation of this period of rising exploratory activity. After the war, Syria won its independence and began a new archaeological era. The excavations became fully supervised by Syria, where the Directorate General of Antiquities opened excavation projects in several locations, such as Tal Amrit and Tal Kazel on the coast, under the supervision of prominent archaeologists such as Adnan Bounni and Nassib Salibi.

International involvement in archaeological work was also welcomed again, and excavations were resumed slowly but steadily in the early 1950s.

Excavations were resumed at Ugarit and Marie, and the German excavations led by Anton Moortgat began at the site of Tal Chuera, which dates back to the third millennium in northeastern Syria. The British, French and Danish excavations, particularly the Italian project opened by Paolo Matthiae, began in Tal Mardikh (Ebla), in the south of Aleppo, in 1964, which would provide the most suitable results for the pre-Hellenistic sites (Akkermans, 2003).

There was an increase of the fieldwork in the late 1960s, which marked the beginning of the archeological era in Syria. The Syrian government announced plans to build a dam on the Euphrates River, near the Al-Tabqah region, and asked for international help in digging sites threatened by sinking. Indeed, many institutions and associations have responded from a large number of countries, and the results of the first major rescue operation have been extremely important (Abdulkarim, 2016).

The beginning of the discovery of Neolithic settlements in Syria at the site of Mureybet (Abu Huraira) (Shaw & Jameson, 1999), in addition to the identification of about 178 sites from that period, is through archaeological surveys of the Al-Amuq plain, and the date of these sites was according to the surface materials in the 1930s.

In later periods, subsequent surveys have suffered from lack of precision and were only performed on the most important sites, which encourages excavations works in the future. This pattern began to change in the 1970s with the opening of the Tubingen Atlas project in the Lower Khabur valley and the survey of the Valley of Qoueiq River, in the vicinity of Aleppo (Akkermans, 2003).

Archaeological surveying projects during that period were influenced by the work of Robert McCormick Adams Jr. In his surveys for the Western Hemisphere (Global south), Adams targeted a more accurate assessment of the size of sites and their time distributions, as well as more detailed explanations of the regional developments.

Tony Wilkinson made a qualitative move to introduce off-site archeology, which explores areas between sites, and examines the distribution and interpretation of various features, such as ancient roads, irrigation canals and scattered archaeological remains. The mechanism that links adjacent sites to each other, and the analysis and conclusions are based thereon.

Despite the great importance of Ethnoarchaeology (Shaw & Jameson, 1999), it has not been sufficiently adopted in Syrian sites due to the lack of experts working in this field. This had a negative impact on the archaeological understanding of Syrian sites, especially in light of the rapid disappearance of culture and traditional physical behaviors in Syria, due to the succession and mixture of hundreds of different civilizations in this region (Akkermans, 2003).

On the other hand, the frequent resemblance between ancient architecture and tools, along with their current counterparts in Syrian villages, has played an important role in in leading archaeologists to infer the function of old objects from the current counterparts. Although such comparisons are not necessarily accurate, they often denounce the existence of a radical change in successive mindsets, and this view may be

deceptive, given the many cultural, ideological and historical developments that have occurred in the region.

As with all ethnoarchaeological work, hypotheses derived from their present contemporaries have been tested to try to understand the data discovered from ancient ages. Archaeologists in Syria have used the functional categories of existing buildings such as the house, the temple, the palace kitchens, storages, etc., in distinguishing ancient uses of archaeological space, which is often likely to be multifunctional.

The number of archaeological missions that worked in prospecting sites in Syria during 2010, is about twenty-one archaeological missions (Abdulkarim, 2016), between national and joint missions and foreign missions, spread in most Syrian provinces. In early 2011, with the beginning of the Syrian war, the Directorate of Antiquities and Museums in Damascus received correspondence and requests from foreign and joint missions, expressing their desire to continue the excavations in the sites where they worked previously., They had most of the approvals and facilities necessary for that, but they did not come to Syria because of the security conditions that occurred at the beginning of the crisis. However, two expeditions continued their work at the time, the Belgian mission that worked at Tal Shagar Bazaar in Hasakah province and the Hungarian mission that worked at Al-Marqab Castle (Abdulkarim, 2016).

In spite of this difficult situation, the General Directorate of Antiquities and Museums, represented by the Directorate of Archaeological Excavations, continued its work in directing the national archaeological missions. It monitored the necessary financial support needed to continue the excavations in several important archaeological sites, in addition to a number of emergency excavations that were carried out. Some national missions had to make only study sessions, due to the deterioration of the security situation in most of the Syrian governorates.

By the end of 2012, the gravity of the security situation in many archaeological sites had been exacerbated. Many houses and headquarters of foreign missions had been attacked by armed groups and thieves taking advantage of the deteriorating security situation in the country (Cunliffe, 2012), besides the control of armed groups on many

archaeological sites, the absence of Syrian state authority in those areas, Consequently, the absence of supervision and accountability by the Syrian executive authorities allowed the terrorists and the thieves to access a lot of sites and archaeological hills where they caused destruction, theft, and illegal excavations (Abdulkarim, 2016).

Despite the deterioration of the security situation and the worsening of the Syrian situation, the reduction of the annual budget of the General Directorate of Antiquities in general, and the Directorate of excavation in particular, the archaeological work remained. In spite of the compelling circumstances, excavation continued in the safe places under the control of the Syrian state.

The excavations continued in the Lattakia Governorate, at the site of Ras Shamra, Tal Shamiya, Ain al-Helwah and Tal Tueni (Abdulkarim, 2016), and in the Governorate of Tartus, in each of the site of Amrit, and Kala't Al-Kahf, and Muntaar, in the governorate of Suweida, in the site of Shahba, Tal Daba, and Sabe'a, in the governorate of Hama, at Tal Maksor and Tal Al-Nahas, and many other sites.

The General Directorate of Antiquities and Museums worked on staying in contact with many foreign mission managers who worked in Syria, who provided the Directorate with their publications, and the latest researches on the results of excavations carried out previously in Syrian archaeological sites, and the recent studies they have reached (Shadi, 2015).

With the declination in the number of exploration missions of various types, the decrease of the budget allocated by the Ministry of Culture to the Directorate General of Antiquities and Museums, and consequently the reduction of funding allocated for archaeological excavations (Abdulkarim, 2016), the orientation in archaeological work became the documentation aspect., This aspect preserved the administrative and scientific heritage which was maintained by the Directorate in its archives where it worked on preserving the reports of excavations, for all the archaeological missions that worked in Syria, plans for archaeological surveying of all kinds, and documented paper pictures, in order to preserve them from any danger or damage that may affect them. By transferring them to safe places, and converting the contents of the archive to digital data, they are easy to save and access when needed. The preservation of the archaeological archive is in itself the preservation of the memory of the Directorate

General of Antiquities and Museums during the process of the national explorations, and it preserves the archaeological excavations in pre-independent Syria and to this day.

2.1.4. The impact of war on archaeological sites and historical buildings

2.1.4.1. Impact of wars and disasters on the urban environment

Wars are the most dangerous thing that man causes that affects the monuments of ancient civilizations, and the danger increases as the tools and weapons of war develop. Since the earliest times, wars have been the mattock of demolition and destruction of all aspects of urbanization, as the enemy resorts to setting fire to it or sabotaging it by all available means of sabotage. In modern times, the weapons of destruction have become more dangerous. The following are some of their effects on the urban environment:

1. Physical impact: The physical impact of a disaster or war on the urban environment is one of the most visible effects, most costly and urgent for reconstruction, due to damage to public buildings and facilities, infrastructure and urban structure (Collaborative, 2004).

2. Social Impact: In times of disaster, social problems are exacerbated, poverty is widespread, basic needs are not available, and living conditions deteriorate, leading to deep social problems, which must be solved and dealt with very quickly and given due attention. These effects may not be materially visible, like the demolishing of buildings, but they are invisible, and their effects on society are heavy and profound (Collaborative, 2004).

3. Economic impact: The economic fabric is affected in the aftermath of disasters and wars, causing severe damage, sometimes resulting in the total destruction of the economy. Private enterprises and industry are affected, commercial traffic is damaged and consequently funding is reduced at both the individual and public levels, especially for the purpose of reconstruction (Thomas, 2001).

4. Cultural impact: In times of war and disasters, cultural and historical evidence is destroyed as a result of the disaster or deliberately as in war. Whether these

cultural evidence has a physical structure, such as cultural centers, cities, historical sites, monuments and religious buildings, or it was a moral culture, as in customs and traditions. Here the serious impacts of war are changing the visual image in the urban environment, falsifying history and imposing a new identity of the place (Aygen, 2005).

2.1.4.2. The impact of armed conflict on historic buildings in Syria during the past seven years.

The armed conflict in Syria has had a profound impact on all aspects of life. The change in the political and economic processes has caused direct damage to Syrian historical sites and buildings, due to the severe deterioration of the physical condition of many archaeological sites and historical buildings. This is due to the lack of preservation and protection procedures from the deteriorating security situation, the scarcity of economic resources, and the partial or total destruction of some buildings as a result of repeated clashes (Thomas, 2001).

In addition, there were several factors that were caused by the political unrest, which played an important role in affecting the historical buildings indirectly, the most important of which was the cessation of tourist groups coming to Syria, which in turn led to a paralysis in the tourism sector. Coupled with the suffering of many tourism workers from losing their jobs, in addition to the reluctance of the owners of capital on tourism investment in Syria, there were many investment projects stopped during the current events, and some sources of external funding stopped. In addition to the theft of antiquities the illegal trade in antiquities increased at the historical and archaeological sites of Syria due to poor security.

2.1.4.3. The need to protect historical buildings in case of armed conflict

War and armed conflicts are one of the worst threats to the social, economic and cultural structure of the countries that have plagued them (Thomas, 2001). Syria has not enjoyed peace in the past seven years due to the unjust war that destroyed a large part of its cities and a wide range of its famous historical and cultural sites, including architecture and urban. The historical and heritage architecture, and archaeological sites, are considered

a human heritage, not only local, so preserving it is an international and global duty (Cunliffe E. , 2012).

2.1.4.4. National and international protection of heritage and historic buildings

Cultural and natural heritages are threatened with an increasing destruction, not only by the traditional causes of extinction, but also by the changing social and economic conditions, which increases the seriousness of the situation with its most damaging and destructive factors (Al-Omran, 2009). The disappearance or demise of any part of the cultural and natural heritage necessarily leads to a harmful impoverishment of the heritage of all the peoples of the world. The protection of this heritage at the local level is often deficient, owing to the magnitude of the resources required by such protection and the lack of economic, scientific and technical resources in the country in whose lands the heritage is to be saved.

The World Heritage List has set out a set of disciplines in its articles (UNESCO, 2004), to encourage the states to preserve their cultural and natural heritage, including:

- Heritage is a universal and not a local property.
- Countries still need the expertise to protect their heritage.
- Expand the circle of the countries that preserve their cultural heritage.
- The role of the international community in supporting the country is not a substitute for its role.
- The largest role must be done by the country itself, and then resort to the international effort as needed.
- The need for public policies to make cultural heritage function in the life of the community.
- Emphasize the importance of establishing a system of international cooperation and assistance to contribute to saving the efforts.

2.1.4.5. Intergovernmental Committee for the Protection of Cultural and Natural Heritage

This Committee is a body elected from the group of the member states that signed the convention. This body is keen to open up to institutions, bodies and individuals in the world and the most important institutions, and includes in its partnership the International Center for the Study of the Conservation and Restoration of Cultural Property (ICCROM), the International Council of monuments and Sites (ICOMOS) and the International Union for the Conservation of the nature and its recourses. The Committee also emphasizes the importance of inventory and documentation of cultural and natural heritage assets, which are eligible for the registration under the international list for world heritage (Demas, 2003).

There are two lists to be classified underneath, which are:

1. The World Heritage List of Extraordinary Value.
2. The list of world heritage in danger (i.e. which is threatened by grave dangers such as extinction and disappearance).

In order to add any site on the endangered World Heritage List, there are significant causes, such as the risk of extinction, resulting from armed conflict and its threats, disasters, crises, fires, earthquakes, landslides, volcanoes, floods or others (Al-Omran, 2009).

Accordingly, a list prepared by the United Nations Educational, Scientific and Cultural Organization (UNESCO) under the name of "World Heritage in danger" included six historical sites in Syria that were damaged by the armed conflict since March 15, 2011, despite warnings from experts about it (Williams, 2013).

Along with the loss of life and property, the armed conflict in Syria - which contains many archaeological sites - has destroyed thousands of places of significant historical importance in the country. The UNESCO list included historical places in Damascus, Bosra, Aleppo, Palmyra, and the historic villages of northern Syria. And the sites with

an ancient historical legacy were classified by (UNESCO) as "World Heritage in danger", indicating that significant damage happened to a large number of historical shrines, museums and ancient markets, as well as mosques and ancient archaeological sites (Williams, 2013).

2.1.4.6. The most important conventions issued to protect historic buildings in case of armed conflict

- Declaration of Principles No. 907 on the protection of cultural heritage during armed conflict.
- Fourth Geneva Convention of 1949 (Pictet, 1958).
- The 1945 Hague Convention for the Protection of Cultural Property in the case of Armed Conflict (Poulos, 2000).
- Some provisions of first Protocol of 1979, supplementing to the Geneva Conventions of 1949 (Ahmad, 2006).
- Second protocol of the Hague Convention of 1999.

2.1.4.7. Legal framework for the protection of historical buildings in Syria during armed conflicts

The Syrian Arab Republic ratified the Convention and the 1954 Hague Protocols that were under the supervision of UNESCO, which provides for the protection of cultural property in the event of armed conflict (DGAM, 2000).

In contrast, Syria is not a party to the second Protocol of the Hague Convention of 1999, as it has not signed it, but according to article 32, paragraph 2, of this Protocol that states:

"A Party to a dispute that is not a party to this Protocol, but accepts and applies its provisions in accordance with article 2, paragraph 3, is permitted to request appropriate international assistance from the Committee", where Syria can benefit from this Protocol.

According to UNESCO, Syria can also launch a system, known as an enhanced protection system, which follows the following conditions:

1. Cultural heritage of great importance to humanity must be protected by appropriate local measures (legal and administrative).
2. Archaeological sites and world heritage sites will not be used for military purposes, and the state that controls the cultural property must provide a definite statement that they will not use these sites (Kasab, 2006).

In case the party to the conflict is not a party to the second Protocol and will not accept and apply its provisions,

there will be enhanced protection of its cultural characteristics, which are of great importance to humanity, and which are not in use for military purposes (and that doesn't require a declaration from the country) and that means:

Legal protection

Technical assistance

Financial assistance from the international fund, this Fund is for emergency, temporary measures or other that should be taken to protect cultural property in periods of armed conflict or immediate reform after the end of hostilities (Sarhan, 2014).

The Committee should be asked to protect cultural property in case of armed conflict.

As for the Syrian monuments Law (DGAM, 2000), the legal protection of the Syrian heritage is incomplete, suffers from many loopholes, and comes at the forefront:

1. There is a lack of legislation in force.
2. Weak effectiveness in its tools.
3. Absence of coordination mechanism with other relevant bodies.
4. Weak human and material resources available.

We find ourselves needing to answer a specific question: What is the possibility of developing a new and modern monuments law? In other words, what is the possibility of developing the articles for the protection of cultural property in case of armed

conflict, in proportion to the Syrian situation? Moreover, how to reconstruct and rehabilitate historic areas after the war knowing that old cities are also subjected to the system of building control, which in turn does not address the issue of reconstruction after wars and disasters!

The ideal situation for the intervention is to answer the previous question respecting the specificity of the Syrian situation, which is different from the rest of the cities of the world in many details, and respecting the identity of our ancient sites and cities and their history that dates back to old centuries. And that is enacting legislation that will organize the reconstruction and rehabilitation process, but without the omission of what it is currently exposed to from being systematically destroyed, and therefore not behaving as if war never happened.

2.1.4.8. Blue Shield and its objectives

The Blue Shield is the cultural equivalent of the Red Cross / Red Crescent. This network was founded in 1966, consisting of organizations dealing with monuments, sites, museums, archives and libraries, as well as audiovisual support. It is an international institution working objectively and impartially, at the political and regional levels (Koch, 2003).

Objectives of the Blue Shield:

- Facilitating the international response to emergencies, which threaten cultural property.
- Promoting the preservation and respecting the cultural property, particularly by strengthening preparedness for risk.
- Training experts at the national and regional levels, in order to prevent, control, and recover from disasters.
- Acting as an advisory authority for the protection of endangered heritage.
- Consulting and cooperating with other bodies, including UNESCO, ICROM and the International Committee of the Red Cross.

Chapter II: Syrian World Heritage Sites in danger

2.2.1. Introduction

Heritage as a definition is not simple because it is a multifaceted term that is subject to constant change. It is a subjective concept that can be seen from multiple and various viewpoints depending on the difference of the party that identify it. The definition of heritage has traditionally been associated with the "ancestral legacy" which includes tangible and intangible objects and ideas of social significance (Al-Omran, 2009).

The value of heritage assets can vary greatly, depending on the very divergent views of today's industrial society, which tends to regard heritage as an economic asset, only as valuable as it can generate wealth (Cunliffe E. , 2012). This pure materialistic concept of heritage stems from the close relationship that arose between heritage and tourism, and its financial return, although the ideal concept of heritage is the value of heritage material is determined by its historical significance and uniqueness.

Cultural heritage is linked with historical heritage. In addition, it also unites the aesthetic, artistic and historical values that characterize different societies. Therefore, recognizing the heritage of a nation gives us a better understanding of both its present and its past. (ICOM-CC, 2008)

Syria has six archaeological heritage sites that have been listed in the World Heritage List in successive years, namely, the ancient city of Damascus (1997), the ruins of Palmyra (1980), the city of Bosra al-Sham (1980), the ancient city of Aleppo (1986), Al-Husn castle (2006), and the archaeological villages in northern Syria (forgotten cities) (2011). These sites alone represent at least two thousand years of legacy and history.

Many Syrian archaeological sites are listed on the list of the World Temporary Heritage and nominated to become a permanent list of world heritage in the future, in addition to the existence of a range of archaeological sites, listed on the Syrian national heritage, which are also impressive (Abdulkarim, 2016).

The main authority responsible for maintaining and preserving archaeological heritage in Syria is DGAM, the Directorate General of Antiquities and Museums, and its regional administrations in Damascus, which since its inception played an important and pivotal role in preserving this heritage. However, on March 15, 2011, civil unrest broke out throughout Syria and soon turned into armed actions declaring the beginning of a ruinous long-term war, which had disastrous effects on the land, the people, and the history of the country (Abdulkarim, 2016).

As a result, the task of DGAM became increasingly difficult as the conflict widened. The access to many archaeological sites became a major challenge, if not impossible. With the beginning of the crisis, some armed gangs, formed at the time, cut off public roads and the roads leading to archaeological sites, which needed periodic protection and maintenance (Williams, 2013). The development of the war, the fierce fighting, and the distribution of control over the Syrian areas between the Syrian government forces and the armed gangs became the obstacle in reaching the archaeological sites.

In preserving its national role in the protection of museums and archaeological sites, the General Directorate of Antiquities and Museums endeavored to prevent theft and destruction within its limited potential and in accordance with the nature, location, accessibility and field conditions surrounding archaeological sites (Abdulkarim, 2016). DGAM secured most of the national museums in the Syrian Arab Republic and transferred their contents from museums to safe places to protect them from destruction or theft.

They also carried out logistical protective works around some museums such as the construction of concrete walls and temporary barriers, surrounding the statues and museum facades, to protect them from missiles and destruction. This included the construction of a temporary wall to protect the frontispiece of the Aleppo National Museum, and the construction of temporary walls around the statues scattered around the garden of the museum itself.

In cooperation with the Syrian police, DGAM also protected the archaeological sites within the areas under the Syrian state control by conducting patrols of police and internal security, and continuously to investigating and protecting archaeological sites from attacks and looting.

DGAM has also tried to communicate with the local community, in areas controlled by armed gangs, to try to negotiate and assist in the protection of the archaeological sites from destruction and theft, in cooperation with the community and dignitaries in those areas.

2.2.2. Effect of the disastrous war on the Syrian archaeological sites in general

The Syrian archaeological sites under the weight of the war have suffered varying damage, ranging from neglect and damages, partial or total destruction in some cases, and in most areas under different influences of the Syrian warring parties.

There have been many different negative reasons affecting the Syrian sites within the existing war, which can be summarized as the following:

The impact of shelling and demolition: Like any barbaric war that occurs, most of the damage beside the humanitarian aspect is the infrastructure and urbanism, due to the shooting and mutual bombing between the conflicting parties., The military actions spread over a large part of the Syrian territory was the main and direct reason for the damage and destruction of many of the Syrian archaeological sites where the mutual bombing reached many archaeological sites and historical buildings, and led to the destruction of parts of them, and sometimes to a full destruction .(Abdulkarim, 2016)

In addition to the destruction caused by the mutual bombing of the conflicting parties, there was a more serious and brutal factor, the organized destruction of the Takhfiri-jihadist groups, which openly and clearly destroyed many sites and monuments through huge drilling machines or through the exploding and bombing of archaeological sites. All was in full view of the whole world, where those terrorist groups recorded and broadcast their criminal acts on television and social media without shame, declaring that the destruction of these sites and their monuments is a duty and an essential part of their extremist ideology (Casana & Panahipour, 2014).

The most famous examples of the destruction of archaeological sites in Syria by the Takhfiri-jihadist groups is the explosion and bombing of the Temple of Bal and the Temple of Ba'al Shamin in the city of Palmyra by the terrorist organization ISIS at 24-

8-2015, including the destruction of the Lat lion statue, in the Palmyra Museum garden, just before that (Abdulkarim, 2016).

Robbery and looting: Due to the security chaos that occurred during the war, the weakness of the authority of the state, the law in many Syrian areas, and their complete absence in the areas under the control of armed gangs, left many archaeological sites unguarded, resulted in the spread of theft and looting of these sites, as well as illegal excavations of antiquities by thieves (Shadi, 2015).

Many of the reports that came from these sites mentioned these illegal acts have been published, and satellite images have been widely disseminated, revealing the existence of modern gaps in many archaeological sites and their surroundings which did not exist before, resulting from illegal excavations by antiquities' thieves looking for artifacts and mosaics.

The thefts associated with the illegal excavations were not the only thing that happened, as the gangs stole antiques, marble columns, and all that could be carried out and transported from the artifacts (Abdulkarim, 2016).

In addition to the raid on the museums, which were seized by the armed gangs, they stole the contents, smuggled them, and sold them in the neighboring Syrian countries, as the trade of antiquities in the black market is one of the most profitable trades, and the most popular in wars, especially in an ancient country like Syria that is rich with archaeological sites..

Neglect: The bombing and theft were not the only negative factors that affected the Syrian sites. The negligence, for multiple reasons, had a large role in the damage and deterioration of the situation of many of those sites. As mentioned previously, archaeological and historical sites are not only in need of guarding, but also are in need of maintenance and restoration work periodically, to preserve their safety from damage and collapse, and this is what a lot of Syrian sites lacked in the shade of war.

And here, we cannot deny the great and effective role played by DGAM and all the governmental bodies that cooperated with it to preserve and maintain the archaeological sites under the control of the Syrian state (Abdulkarim, 2016). However, the difficult financial situation and the low budget allocated for maintenance work, due to the

repercussions of the war, had a negative role in stopping the work of restoration and maintenance, in most of the archaeological sites. In addition to the inability of the DGAM to access the sites controlled by armed gangs, leaving many archaeological sites under the control of these gangs, without any restoration and preservation works needed to ensure their safety, many of these archaeological sites were exposed to partial or total damage and destruction.

Urban overruns: As mentioned earlier, the security chaos and the absence of authority of the different state organs have the greatest negative impacts on the application of the law in various aspects of life. One of the negative aspects of the absence of law is the modern urban encroachment on historical sites, where many of the weak souls exploited the deteriorating security situation in the indiscriminate construction at the expense of historical areas. Some demolished parts of the buildings are used to create modern buildings in their place, resulting in the destruction and disappearance of monuments of the site. Some have restored the historical buildings and houses they owned using bad techniques, unsuitable building materials, and without consulting the specialists, leading to casing damage and harm to their historical and artistic authenticity (Cunliffe, et al., 2014).

Most of the archaeological and historical sites outside the control of the Syrian government are often neglected and permanently exposed to the previously mentioned dangers, and that is for several reasons, such as the groups occupying these sites do not constitute any value to the sites they occupy, except, as a source of income in case of selling and trading in them because of the lack of cultural and national awareness (Shadi, 2015).

In addition to the lack of restoration specialists, there is a lack of funding for doing the necessary maintenance work for those sites. With a few exceptions of local community participation in the protection, preservation and restoration of archaeological sites, there is cooperation with some experts.

Some of the examples include the restoration work carried out at the archaeological site of Tal Baidar in northern Syria, where the so-called (Tourism and Antiquities Protection Authority of the Province of Al-Gazira), carried out an emergency restoration for the site, involving an experienced team of engineers and specialists that participated in the

Syrian-European Mission, which had been operating there before the war. The restoration work came after 8 years of neglect, after the site suffered damage and cracks due to weather conditions and the absence of maintenance work. It is not possible to determine the quality of these works because of the lack of adequate reports and the lack of supervision by the legal authority, DGAM, on these works. However, they represent, at the very least, a good example of the participation of the local community in the protection and preservation of archaeological sites in light of the enforced absence of the State and its competent bodies.

2.2.3. Types of Syrian archaeological sites that have been exposed to the dangers of war

The archaeological sites that were damaged by the war have varied. The Syrian war did not leave any kind of archaeological sites, which are located in areas of conflict, far from harm. The following are three types of archaeological sites that have been exposed to danger:

1. Sites listed in the UNESCO World Heritage Sites:

There are 6 sites (Old City of Damascus, Old City of Aleppo, the ruins of the city of Palmyra, Al-Hosn castle, the ruins of Bazr al-Sham, and the ancient villages of northern Syria). Most of them, except Salah al-Din Citadel, were subjected to varying damages, either as a result of their direct location or being close to the places of armed conflicts (Zhang, Fyall, & Zheng, 2015).

2. Archaeological sites not listed in the World Heritage List:

They are the archaeological sites with different types and locations like archaeological hills and archeological sites scattered in valleys, hills, the banks of the rivers, and in the depth of the desert, and the archaeological arches in the mountainous highlands, and the archaeological buildings spread throughout most of the country of Syria,

Which date back to different periods of time and different historical and archaeological significance, not nominated or yet included in the World Heritage List. These sites were subjected to looting and robbery by the thieves of the antiquities through the illegal excavation works which caused great destruction in those sites and a loss of archaeological information in them. Sometimes the thieves relied on the experiences of local people who worked with archaeological missions to extract the artifacts from the ground, but the looting and theft were always their destination, and the destruction and loss of heritage was the result of these subversive acts (Abdulkarim, 2016).

3. Museums:

The national museums, located in areas controlled by armed groups, were subjected to the worst acts of looting and destruction. Their antiquities were stolen, sold on the black market and to neighboring countries. Also some museums located in the Syrian government controlled areas were not safe from the missiles fired by armed groups, in addition to field museums, or so-called site museums, whose destruction and the theft of their contents were also part of the destruction of those archaeological sites. One of the most important examples of museums being stolen and destroyed is what happened to the Ma'arat al-Nu'man Museum in Idlib Province, dominated by the terrorist organization known as Al-Nusra Front, which destroyed parts of the museum and stole its contents (Abdulkarim, 2016).

2.2.4. International response

On 20-6-2013, the annual conference of the World Heritage Committee, under the auspices of UNESCO, was held in the Cambodian capital Phnom Penh, in which six of the Syrian World Heritage sites were declared World Heritage Sites in danger due to the conflict in Syria, which began in March 2011 (Williams, 2013).

UNESCO spokesman Ronnie Emelan said the decision to place World Heritage Sites in Syria on the danger list is aimed at obtaining international support to save sites under the threat of war. The Commission also supported a French proposal to establish a special fund to preserve these sites.

Since the start of fighting, the UNESCO has repeatedly called upon the parties of the conflict to preserve Syria's cultural and historical heritage and alerted the international community to the dangers of smuggling and trading in cultural property. The Director-General of UNESCO, Irina Bokova, called upon all those responsible to immediately cease the destruction and to demonstrate respect for the beliefs and traditions of all Syrians. Added to the destruction of the cultural heritage, which cannot be compensated for the Syrian people, is a loss for all humanity, referring to the shrines and mosques, archaeological and cultural objects, and living traditions that have been lost (Abdulkarim, 2016).

After extensive reports of looting in archaeological sites, the work focused on the transferred monuments and illegal trade. The International Council of Museums (ICOM) issued an emergency red list of endangered Syrian cultural objects in September 2013, to help identify the Syrian artifacts likely to be purchased and sold illegally (ICOM, 2013).

In another positive step in February 2014, UNESCO reported that it had begun training customs and police officers in Lebanon, Turkey and Jordan to search for and uncover cultural and archaeological artifacts illegally transferred and smuggled from Syria. The Syrian government has made considerable efforts to secure collections of antiques transported from museums in unsafe locations to other safer places (Shadi, 2015).

The looting of archaeological sites clearly began early 2012, at the very least, but the international action, the conferences held, and the decisions taken, began only between mid-2013 and 2014, and this demonstrates the difficulty and slow response from the international community to emergency events (Lostal, 2015).

Although the international measures and decisions described above are a positive and useful step in protecting world heritage, the main problem is that they do not deal with the problems and dangers that archaeological sites are subjected to until they occur. It doesn’t do much to address the widespread destruction of sites before they occur. That is, it doesn’t develop proactive policies to protect those threatened sites. Aall measures taken to protect the site, imposed after the outbreak of war, are rarely effective.

2.2.5. Syrian world heritage Sites in danger

2.2.5.1. The Old City of Damascus

The old city of Damascus is located in the heart of the capital, Damascus, and its commercial and social center. The old city has a large number of diverse heritage, historical, cultural, economic and social values. What distinguishes Damascus is that it is considered the oldest inhabited capital, and housing in it continues without interruption, in addition to its excellence in exceptional international values and values of originality.

The ancient city of Damascus was listed on the national heritage list on 16-8-1976. It was the first Syrian site to be listed in the World Heritage List in 1979. The old city of Damascus includes 12 real estate areas, totaling 6142 properties, many of which have been damaged by the missiles that rained down the Old City by the terrorist gangs, and the repeated suicide bombings in the same area (Shadi, 2015).

Among the affected parts of the city of Damascus in general, and the Old City in particular, the following are mentioned:

1- **The Old City Doors:** The stone structure of (Touma) door, and the decorative metal parts on the door, were clearly damaged and harmed as a result of a car bomb explosion near it, which was detonated by extremist groups in that area (Abdulkarim, 2016).

2- **Religious buildings:** The Umayyad mosque, the jewel of Damascene architecture, was exposed to mortar shells that hit parts of it, and distorted one of the unique mosaic paintings, which covers the upper section of the triangular facade of the corridor, overlooking the courtyard of the mosque from the south.

   The Al-Basrawi mosque in the Marja area, the Roman Catholic Archbishopric in the Zaytoun neighborhood, the Syriac Catholic Archbishopric, the Chaldean Church in Bab Touma and Sultanaat Al-alam Catholic Armenian Church in Al-Joura area were exposed to varying damages because of the mortar shells falling on them, and the destruction of parts of them (Casana & Panahipour, 2014).

The Jewish synagogue of Gopper located in the city of Jopar, was exposed to the most heinous acts of looting and pillaging of its contents. The armed groups that took control over the site vandalized and destroyed its architectural elements, carried out excavations inside the synagogue, and surrounded area, stealing everything that could be stolen from it. Thus what remained is just destroyed walls.

3- **The historical buildings used to date:** Damascus Castle, museum of Folk Traditions (Azm Palace), the building of the department of monuments in al-Marga area (Ghazi House) and the historic Hijaz station have been subjected to various terrorist attacks between bombings and mortars, which have led to damage of varying severity in their parts.

4- **Archeological schools:** Al-Adiliah school in Bab al-Hadid district, al-Jaqamaia school north of Umayyad mosque, Al-Sa'ada school, Al-Manar school, and others were exposed to mortars and parts of them were destroyed.

DGAM's protection measures during the crisis:

The Antiquities and Museums Director, through the Department of Archeology of Old Damascus, and in cooperation with the various state agencies, carried out preliminary and emergency measures to protect the old city of Damascus, in the light of the continuing war that has not yet ended, and of these measures are the following:

- Combating violations: Prevent any infringement or any construction or demolition, and any acts not licensed and take the necessary action, according to the Syrian Antiquities Law, in case of any abuses (Abdulkarim, 2016).

- Documenting damages: Where field detection works were carried out directly, for each damage suffered by the archaeological structure, document it by images, and coordinate with the Internal Security Forces, to regulate the necessary controls. The owners of damaged historical properties were also provided with the necessary technical conditions and specifications, experiences to repair the damage to their properties, and all necessary documents indicating the condition of the property prior to the damage (Akkermans, 2003).

- Documenting the site: Even if this step comes late, it is one of the most important steps taken by the Department of Antiquities of Damascus. Documentation is one of the most important steps and policies of preservation of heritage because it represents the preservation of visual memory and is a document approved in all current and future comparisons and studies, as it is considered the first step in the work of restoration and maintenance, where the great importance of these documents appears when there is any sabotage in the monument.

The Department of Antiquities of Ancient Damascus focused on archaeological documentation as a preliminary stage of the restoration and maintenance work, which was started later. The most important acts of protection and methods of documentation conducted by the Department of Antiquities of ancient Damascus are:

1- Archiving: The staff of the Damascus Department worked on converting all available documents relating to the properties of the old city to a digital version, saved several copies, and worked on the establishment of a comprehensive database, which includes all important information and documents (Abdulkarim, 2016).

2- Photography: Worked on the preservation of an archive of old and recent images, for the archaeological sites in the area of old Damascus, in addition to the images before and after the damage, in a digital photo archive, and the continued the documentation of the rest of the areas, by accompanying images of the restoration work (Abdulkarim, 2016).

3- Diagrams: where all the schemes and locations of the sites were converted to digital format, converted to AutoCAD files, and retained several copies, in addition to the work of auditing the old plans, and continuing the work of architectural surveying of the buildings that don't have full plans, within the old city of Damascus (Abdulkarim, 2016).

4- References related to the old city: all the available references in digital format, and related to the old city and its buildings were grouped. And the number of these references is about 160 references, of which 70 were converted to electronic copies. The scientific articles and worksheets, which are part of the archaeological and historical context of the city, were collected and archived.

5- Communicating with the local community and the governmental executive bodies: The residents of the old city of Damascus have been contacted to raise awareness of the value of the old city and to emphasize the importance of their role in preserving it and its buildings, also worked on providing expertise and assistance necessary for the maintenance and restoration work that the population started to do (Lilas, 2017).

Communication between the executive government agencies, such as the police and civil defense force, and the fire brigade of Damascus city was made, aiming for a joint coordination between the state agencies involved, to prevent fires in the old Damascus area, and to work on avoiding all causes that lead to such fires. In addition to communicating with UNESCO, they will provide expertise on the protection measures for historical cities, in accordance with international laws and treaties relating to the protection of historic sites, which states that UNESCO is obliged to provide expertise and support in these cases and that Old Damascus is registered in the World Heritage List (Al-Omran, 2009).

The Department of Antiquities of Damascus is currently in coordination with the Directorate of Awqaf Damascus (Office of Waqf buildings and historical mosques), the University of Damascus, and the Directorate of the Old City, and that is for the documentation and exchange of information and experiences, in addition to cooperation with committees of the Damascus Engineers Union, through a note of cooperation to preserve the national heritage, through organizing lectures, seminars and workshops, follow-up projects of restoration and rehabilitation, and the formation of joint committees for this purpose.

2.2.5.2. The City of Bosra al-Sham

Bosra is located in the province of Dara'a in the south of Syria. Mentioned as (Bosrana) in the plates of (Tal Al-Amarna), inhabited by the Amorite tribes since the first Bronze Age, and in the late 4th century BC, it became under the Hellenistic rule and was called Bossora at that time. In the first century it was ruled by the Nabataeans, and became their north capital during the reign of King (Ra'bal II), at the time when (Petra) was their capital of the south. Bosra became an important commercial center because it was on the road to commercial convoys (Joudallah, 1999).

In 105 A.D the Romans conquered the city of Bosra during the rule of their Emperor Trajan. It was then called the Nova Trajana Bostra. Emperor Trajan ordered it reconstructed and placed a military garrison of 5000 Roman soldiers, paved its roads, made guard stations, horse stables and caravan service centers. During the reign of Alexander Severus between 229 and 235 AD, Bosra thrived in agriculture and commerce. Main roads were opened for it with Amman, Jordan, another route with the Arabian Gulf, and a route with Haifa on the Mediterranean coast, and another road with Damascus and then to Palmyra. Bosari was awarded the title of "Colonia Bostra", and reached the peak of its glory under the reign of Emperor (Marcus Julius Philippus) between (224-249ad). It became a major city (Metropolis), which had its own currency and became a center of science, industry and trade. It also became a storehouse for the Roman Empire crops, for the abundance of agricultural crops in its nearby plains from wheat, barley, lentils, etc (shaaban, 2012).

In the Byzantine era, Bosra became the patriarchal headquarters, and many churches were built there. After the control of Arab Muslims on the Levant, Bosra maintained its importance, for its location on the pilgrimage route between Damascus and Mecca, It was a point of rest and catered to the convoys of pilgrims (Joudallah, 1999).

In the Ayyubid and the Mamluk period, Bosra had great strategic importance in repelling the Crusader attacks on the region. Later, they repelled the Mongol attack of 1250 AD, which caused great damage to the city and its castle, then (Baibars) ordered it rebuilt and reconstructed.

In the Ottoman era the city and its castle were neglected, then the towers and walls fell. Then the roofs and the terraces collapsed. At the beginning of the 19th century, Bosra became a group of scattered ruins. After its independence, Bosra recovered its activity and became of tourist importance, especially in the last thirty years, after the restoration work in various parts and touristic rehabilitation (Th. Fournet, 2015).

The ancient city of Bosra was a rectangular Greek-Roman plan, and the perpendicular streets were intersecting. Surrounded by an arch-shaped wall, its foundations were made by the Nabataeans, with a height of 10 meters high and 4 meters wide, with wide facing doors, decorated with columns and surrounded by galleries. The city was divided into several neighborhoods, the popular residential quarter in the west, built in the Aramaic era, and the administrative district in the east. It dates back to the Nabataean era in the 2nd century BC. The middle district is located between them, starts in the north with the camp and military housing, and ends in the south. The religious district is the center of the temples, in addition to the neighborhood which includes bathrooms and the theater. The two main streets of the city are (Decumanus) and (Cardo), with ceiled corridors, on either side of which are stores, shops, and public facilities (Joudallah, 1999).

The city of Bosra is characterized by an exceptional international, historical, cultural and religious values, and unique archaeological sites. At the regional and global levels, this extraordinary value of the city of Bosra, has been listed on the Syrian national heritage list since 1973, and then after seven years on the World Heritage list in 1980. The number of archaeological sites registered on the national heritage list, in and around Bosra, is 54 archaeological sites (Abdulkarim, 2016).

Damage to the site during the war:

Until the date of writing these lines, there is no accurate and comprehensive information of all the damage to the site of Bosra, and all the surrounding sites, because most of them are still within the scope of the armed conflict, but what was observed of the damages, and confirmed till this date, can be summarized as follows:

1- The old town of Bosra: The destruction and burning of many traditional houses was observed, and damages in a number of archaeological buildings, in addition to building violations in contrary to the followed rules in the old town.

   Secret excavations in some locations by the thieves of the antiquities were conducted in order to search for treasures. Moreover, the most problematic case is the demographic problem, which is the citizens' abandonment of the town. The number of families living in Bosra has decreased from 1200 to 150 families (Th. Fournet, 2015).

2- Bosra Castle and its theater: the collapse of simple parts in the ditch surrounding the castle because of the shells.

3- Monastery of the monk Bahira: Upper parts of the silo were damaged, in the southeast corner of the monastery.

4- Kulibah (bed of the king's daughter): The site suffered from a major demolition of most of the architectural parts, and the crash of carved cornices.

5- Deir Shmeis: was subjected to vandalism by armed gangs at the beginning of the war using large drilling tools (Th. Fournet, 2015).

6- Mosque of Mabrk AL-Naqa: destruction in the eastern wall of the mosque.

7- Nabatieh pond (Eastern): The southern wall suffered minor damage as a result of missiles (Cunliffe, et al., 2014).

8- Palace of the Archbishop: The palace suffered minor damage, confined to the southern wall.

9- The wall: Some citizens violated the old wall, in the southeast corner of the ancient city of Bosra, and constructed a new building, at the beginning of the war (Shadi, 2015).

10- Omari Mosque: Since the beginning of the crisis, the Omari mosque has been subjected to various attacks, as it was used by the armed groups as a field hospital and an ammunition depot (Th. Fournet, 2015). As a result of the shelling in the fighting, the roof was damaged in different places, and part of the false ceiling was torn down, which covered the bowl of the mosque. The windows of the western wall were damaged and part of the stone pillars located in one of the arches on the eastern side as well as floor damages. Armed groups have recently destroyed the minaret and destroyed a large part of it.

11- Fatimid Mosque: The damage of the roof of the mosque in the south-west, in addition to the destruction of columns, which were located at the top of the minaret (Abdulkarim, 2016).
12- Manjak Bathroom: The bricks that cover the water fountain in the reception hall were destroyed and removed (Tancredi, 2005).
13- The Arched corridor: demolished in some stone pillars, located above the arches in the northern part.
14- Tal-Al-Aswad (musical theater): Government forces placed temporary earth barricades on the western sides of the hill, in order to avoid sniper operations by extremist militants in the parallel street (Abdulkarim, 2016).
15- Hajar mosque (the mosque of the town of Maraba): The roof of the mosque was completely destroyed as a result of rocket shells that fell on it (Th. Fournet, 2015).
16- Bab al-Hawa (entrance to the western town of Busra): Walls were erected opposite the western façade of the cave. Some of the modern writings damaged some of the walls of the old building.

Measures taken by DGAM to protect the city of Bosra during the war:

Since the beginning of the crisis, the visual monuments department of Bosra has worked to strengthen the communication with the competent authorities and the local community in order to raise awareness of the importance of preserving the archaeological sites in Bosra and to convey a message to everyone about the need to preserve and neutralize the heritage (Abdulkarim, 2016). However, the conflict led to the displacement of 1050 families, out of the 1,200 families who inhabited the area, who had the major role in preserving the traditional buildings and giving the old city spirit.

The Central Administration of DGAM in Damascus has set up a committee of employees of the Bosra Antiquities Department, according to the decision No. 684 of 30-04-2014, headed by the Head of the Historical Buildings Division, to reach the people in the villages and towns surrounding the city of Bosra, in order to facilitate the access of staff in the Department to those areas, to follow the development of archaeological sites, and to increase awareness of the population with the importance of maintaining those sites, in coordination with the councils of towns (Abdulkarim, 2016).

2.2.5.3. The ancient city of Palmyra:

In Aramaic (□□□□□□, "Tdmrtu" and it means the miracle) and (Tadmaru in Latin: Palmyra).

If Ugarit is the Jewel of the Syrian coast, Tadmur must be the bride of the Syrian Desert, or the Pearl of the Desert, as some would call it, a bright history that combines the magic of the East and its splendor, its distinctive arts and ancient traditions. This is what every visitor to Palmyra sees and feels.

Its majestic ruins tell the epics of the past, its stones talk about its glories and the greatness of its people, from its streets to its markets, the splendor of its tombs and temples. Visit the Palmyra Museum and you will have a complete idea of a steadfast city. It has lived through a period of conflict between the two most powerful forces on earth, the Persians and the Romans, yet it has maintained its control of the West-East trade route, leaving for humanity its wonderful monuments and remains, challenging all the factors of time as a witness to its history and greatness (Joudallah, 1999).

The most important kingdoms of the ancient East which particularly flourished during the reign of its queen Zenobia, and the secret of the presence of Palmyra in the Syrian desert, in a central location in the middle of the Syrian cities, must be the spring of (Afqa) (shaaban, 2012), which made Palmyra the beginning of a green oasis in the middle of the desert. To become a rest and a station for commercial convoys between East and West, this made it a strategic position, on the ways of world trade, and enabled it to establish an ancient and diverse civilization. Its mighty monuments are still standing to this day despite all circumstances.

Its straight street surrounded by columns, the triumphal arch, the Archaeological theatre and Museum, the main square, palaces and temples, the most important of which are the (Baal) Temple, the royal tombs, the citadel of Ibn Maan, and many statues and monuments that speak of the greatness of the city of Palmyra which competed with Rome, the capital of the Roman Empire at its days of glory. It then became the capital of the most important kingdoms of the East, the Kingdom of Palmyra.

Palmyra was a very important trade station between Asia and Europe, where Palmyra lies between the Euphrates River and the Mediterranean Sea. The Kingdom of Palmyra flourished in the second half of the first century BC and was characterized by the Greco-Roman cities character, with its royal buildings and administrative residences, and the style of public and private buildings, which are characterized by luxury. The city was the wealthiest and richest great city that had many monuments which are considered the most important among the monuments of ancient cities, with its luxury and greatness (shaaban, 2012).

Palmyra is located today in the center of the Syrian Arab Republic, 215 km north of Damascus, 70 km from the city of Sokhna, and about 160 km from the city of Homs (Abdulkarim, 2016).

Palmyra was registered in the World Heritage List in 1980 (Al-Omran, 2009). Over the past years, the Syrian state with its successive governments paid a lot of attention to Palmyra city, where it worked to rehabilitate it to be one of the most important tourist sites in Syria. Moreover, Palmyra has already received thousands of tourists a year, from all over the world.

The measures of managing the ruins of Palmyra to protect the ancient city:

Since the beginning of the Syrian war, the Palmyra Antiquities Department has taken some measures to protect the historic city of Palmyra, its warehouse, museum and archaeological sites. It has reinforced and strengthened the gates of the tombs that are prepared for visits, increased safety factors, added steel doors to protect them, and then buried all the entrances to the tombs, which are scattered throughout the archaeological area, to protect these tombs and prevent any possible acts of sabotage and destruction (Cunliffe, et al., 2014).

All the corridors, entrances, halls and sections of the Palmyra Museum building and its warehouses were strengthened and reinforced with steel gates. The windows of the cellar were also sealed with iron panels, and huge stone blocks were placed in front of the building's external gates, the basement and the garden (Abdulkarim, 2016).

All display cabinets in the halls and corridors have been emptied from all the small contents and were transported with all movable items to closed warehouses to ensure

maximum protection of the museum's entire holdings. The Al-Laat lion statue, which was located in the museum's garden near the main entrance, was packed with a thick metal shell covering the entire height of the statue and filled with pure sand in an attempt to protect it from potential damage (Abdulkarim, 2016).

The competent authorities, in cooperation with the Department of Antiquities of Palmyra, and many members of the local community, managed to confiscate and restore many of the looted archaeological artifacts from the entire archaeological area of Palmyra city and were received and deposited in the warehouses of the Palmyra Museum. One of the most important results of this cooperation between the Department of Archaeology and the local community is the confiscation and retrieval of three half-plates, funerary sculptures of (Tayboul) tomb on 31-8-2014, and a complete half-plate retrieved in the tomb of (Atabn) at 9-10-2014. Before the fall of the city, the General Directorate of Antiquities and Museums took a proactive step, transferring most of the artifacts to safe places in the capital, Damascus (Shadi, 2015).

Damage to the city at the beginning of the crisis:

Due to the deterioration of the security situation in Palmyra, robbery gangs were active. Several attacks were carried out by the thieves of the antiquities, including the theft of the contents of the Zenobia Hotel, located in the heart of the archaeological area, where three statues were stolen from the five statues that were displayed in the hotel lobby. The Palmyra Antiquities Department was able to transfer the two remaining statues to the Palmyra National Museum warehouse (Abdulkarim, 2016).

In addition, some of the famous Palmyra land tombs were also exposed to acts of vandalism and theft, including the following burial sites:

Bouleha tomb: A tomb discovered in 1958 and restored by the Syrian National Mission. Between1964-1966, the Palmyra Department buried the tomb at the beginning of the Syrian crisis in 2011 in anticipation of any sabotage action. Violation was subsequently observed, where the thieves removed a portion of the soil that covered the main entrance hall outside the entrance to the ventilation opening at the entrance door. They removed and widened the ventilation hole and entered the vault. The thieves stole

the half-plates that were shown in the vault, which were 25 plates, in addition to an archaeological tombstone of an ancient tomb, accompanied by tragic acts of sabotage in the vault (Abdulkarim, 2016).

Tomb of Tayoub: It is a land tomb site that was restored by the Syrian-Japanese joint mission between2001-2005. The Department of Antiquities of Palmyra buried it in 2011 to protect it from theft. But this also did not stop the antiquities thieves from digging, entering the tomb, stealing all the 14 mortuary half-plates that were inside, and stealing the heads of funerary scenes, stealing a funerary bed, and breaking another bed for the purpose of stealing it. The Palmyra Antiquities Department restored three funerary half-plates from the 14 missing plates, with the assistance of the competent security authorities (Abdulkarim, 2016).

Artabn tomb: A tomb discovered in 1958 and restored by the Syrian National Mission between1964-1966. The Palmyra Antiquities Department in 2011 carried out the same protective measures prior to the land burial, but this did not prevent the thieves of the antiquities from breaking into it and stealing its contents from the 22 paintings, and stealing a child's head from the funerary scene displayed in the tomb (Abdulkarim, 2016).

Damage to archaeological monuments in Palmyra:

Terrorist attacks escalated into the historic city of Palmyra. In May 2015, the terrorist organization ISIS was able to take control of the city of Palmyra after attacking it from four directions. With the ISIS control over the city of Palmyra, the most terrible tragedy in the history and human heritage began. The terrorist organization began to bomb temples and archaeological buildings, stealing what could be moved and stolen from the antiquities (Shadi, 2015).

June 20, 2015, the terrorist organization blew up Al-Laat lion statue (height 3.5 m, thickness 0.5 m, weighing 15 tons), which goes back to the Temple of Lat - Athens, which was located at the entrance to the Palmyra Museum garden. The organization then broke into the Palmyra Museum and destroyed the frescoes, most of which were forged copies developed by the Palmyra Antiquities Department for the purpose of

protecting them, instead of the original pieces. Fortunately, the Directorate General of Antiquities and Museums transferred most of the important artifacts to safe places in Damascus before the terrorist organization entered Palmyra (Abdulkarim, 2016).

The terrorist organization ISIS blew up the tomb of Mohammed bin Ali, located in a mountainous area, four kilometers north of the archaeological city, in addition to destroying the tomb of Nizar Abu Bahaa al-Din, known as (Shakf), which dates back to the fifteenth century AD, which is located 500 meters from the triumphal arch (Shadi, 2015).

On 23-8-2015, the terrorist organization carried out the exploding of the Baal-shamin temple, dating back to the second century AD, which consisted of a structure surrounded by corridors from the north and south, which became a church between the 5th and 6th centuries AD. The explosion led to the destruction of the structure and the collapse of the surrounding columns (Abdulkarim, 2016).

In September 2015, the terrorist organization completed its crime by exploding the Baal Temple, one of the most important religious and historical monuments of the first century AD. This temple was considered a unique architectural icon and was one of the most famous religious buildings in the ancient East. The destruction of the Temple of Baal-Shemin and the Temple of Bel is a step described by UNESCO as a war crime aimed at erasing the symbols of the diverse cultural heritage of Syria.

The bombing of the Baal temple was followed by the bombing of a group of tombs, consisting of six tower tombs, the Ketot tomb built in 44 AD, the Atnatan Museum, the Tomb of the Jamblik that was built in 83 AD, and it was in excellent conservation condition, two other tombs nearby, and the famous El Abel Tomb, built in 103 AD, composed of a ground floor and four floors above, which was also in excellent conservation condition.

On October 4, 2015, the terrorist organization blew up the triumphal arch in the archaeological city of Palmyra, located at the beginning of the straight street. It is a gate with three entrances, topped by an arch decorated with vegetal and geometric motifs, built by Septimus Sevirus between 193 -211.

On October 26, 2015, ISIS executed three citizens by tying them to three archaeological columns which led to the destruction of the columns (Abdulkarim, 2016).

It was not only that ISIS destroyed the stone, but they executed the Syrian scientific elites, most importantly the former head of antiquities for the ancient city of Palmyra, researcher Khalid Al-Assaad, 82 years old. They cut off his head and hung his body in front of a crowd on August 8, 2015.

He was a well-known archaeologist around the world with his expertise in this unique archaeological site, and he was executed for not confessing where he hid the archaeological artifacts in the museum before ISIS entered the city. In addition, ISIS executed more than 200 people inside and outside the city, 20 of them in the archaeological theater (Abdulkarim, 2016).

Freeing the city of Palmyra from terrorism:

The Syrian army with its allies entered the city and freed it from the terrorist organization on March 27, 2016. Thus, the city of Palmyra became under the control of the Syrian state and international care again. UNESCO and most of the cities of the world rushed to talk about the necessity of securing the city, starting restoration and rehabilitation works of the archaeological area (Abdulkarim, 2016).

The Russian Federation, through its delegation to UNESCO, presented a Russian project for the restoration of the city of Palmyra to the UNESCO Central Assembly. They voted on the decision entitled "On the role of UNESCO in the restoration and preservation of Palmyra and other sites of Syrian cultural heritage." At the meeting of the 199th Session of UNESCO, held in Paris on April 4, 2016, the decision was approved by consensus of all states.

Recently, there has been a significant activity in the restoration of the destroyed archaeological sites, using modern technologies, which rely on sophisticated machines and modern software, where the current era is the era of revolution in the field of software, industrial and electronic technology. One of its methods is the 3D printing technique, capable of reconstructing the destroyed monument as it was before, so that it is difficult to distinguish it from the original one, using the original material used in building the original monument. This was done by the Oxford Institute of Digital

Archaeology, directed by the lawyer and archaeologist Mr. Roger Michel. They built a three-dimensional version of the triumphal arch, using Egyptian marble and three-dimensional printing technology. The arch was built 5.5 meters high, relying on many pictures of the original arch of Palmyra. The arch was erected at the Trafalgar Square in London on April 19 for three days and then moved between the capitals of some countries, such as New York, Dubai and others. This was in an attempt to convince the public opinion that we could return what the terrorists had destroyed again, with no different versions of reality, using the same original material as the monument, and not only in terms of shape but also in terms of texture and color.

One of the successful experiences in using this technique was the reconstruction of parts of the Italian city of Pompeii and the reconstruction of a 4-meter-high version of the winged bull of (Nimrod), destroyed by terrorists in Iraq (Cohen & E, 2010).

One of the main proponents of the use of digital printing is former Italian Minister of Culture Francesco Rutelli, Roger Michel, director general of the Oxford Institute for Digital Archaeology. Many other scientists seemed ready to have their own printers ready to work and reconstruct what had been destroyed in the ancient city of Palmyra within six months, they said (Shadi, 2015).

The approval of the Syrian government and the General Directorate of Antiquities and Museums, which was previously welcomed by its former director, Dr. Mamoun Abdel Karim, is an important and decisive step in the restoration of what has been destroyed in the ancient city, especially the Temple of Baal and the Temple of Ba'al Shemin. This process may face an obstacle, which is the lack of a prior 3D scanning of the ancient city of Palmyra, but according to specialists, relying on thousands of photographs of the monument, may help in the process of making a full 3D version of it.

On 21-12-2016 the terrorist organization ISIS re-controlled the city of Palmyra completely, and this time most of the monuments of the old city were surrounded by mines, to prevent the Syrian government forces from restoring the city, which was one of its primary objectives, protect the monuments of the city of Palmyra, and protect the heritage and human history.

Three months later, with a good study of the dangerous reality of the city of Palmyra, and the development of plans to protect its monuments from destruction, the Syrian army with the Russian ally, did a surprise, rapid and deliberate attack. The city was completely restored and they defeated the terrorist organization, in 2-3-2017, with the least possible losses, while preserving the safety of the ancient city.

The Syrian army, with the assistance of Russian army mine experts, dismantled thousands of mines left by the terrorist organization in the ancient city of Palmyra. The archaeological city and its surrounding area were completely secured. A three-dimensional surveying of the ancient city was completed to document the current situation, a number of agreements have been signed, with several foreign institutions and missions interested in the restoration work, and rehabilitation work has already begun in the city.

2.2.5.4. Al- Hosn Castle

Al- Hosn Castle (Crac des Chevaliers) is one of the most important defensive castles located in the Syrian coastline range, 60 km from the city of Homs. It is one of the most important preserved examples of the type of Crusader defense architecture. Al-Husan castle and Salah Al-din Castle were among the most important defensive Crusader Castles in Syria because of its high elevation and its control over military and commercial supply routes (Joudallah, 1999).

It rises 750 meters above sea level, is built on a volcanic rocky plateau on (Kalkh) Mountain, and used massive limestone in its construction.

The citadel was originally called the fortress of (Al-Safah). It was then called the fortress of the Kurds (Crac des Chevaliers), then it became the fortress of the cavalry, and finally (Al-Hosn) castle.

The Prince of Homs (Shibl al-Dawla Nasr) ordered to rebuild (Al-Hosn), in 1031 AD, and placed a Kurdish garrison. Then it was occupied by the Crusaders led by (Raymond de Saint-Gilles) in 1099 AD, and then restored by the prince of Homs, and remained under his protection, until it was conquered by the governor of Antioch(Tancred) in 1109 and then given it to the count of Tripoli (Raymond II), who in turn gave it in 1142 AD to the Knights of the Hospital (Hospitalicrs), which is a Crusader religious army (Joudallah, 1999).

The exceptional importance of the citadel is due to its proximity to the fortress of (Safita) in the countryside of Homs, and the citadel of (Akkar) in northern Lebanon, which helps it dominate the coastal region and the pilgrimage route between Europe and Jerusalem. It also controls the vital route between the coast and the interior, ensuring the protection of the fertile Bekaa Valley and its supervision of the road, which was passed by the Islamic armies to attack the Crusaders. In addition to being a crusader security base, it provides protection to neighboring areas and the local population.

The castle was subjected to several attempts to retrieve it from the hands of the Crusaders, most of which failed. Both Nur Al-Din 1167 and Salah Al-din 1188 attempted to besiege it and attempted to restore it. However, both attempts failed, until

Baibars in 1271 seized it. He bombarded it with catapult and ordered a hole dug in the southwest tower to enter it (shaaban, 2012).

The castle continued to be used for long periods and kept its importance until it was neglected during the Ottoman occupation where the villagers inhabited it. In 1934, it became the seat of the French during the French mandate. After its independence, it became of great touristic importance, especially in the second half of the twentieth century, after the restoration processes and touristic rehabilitation. in various parts.

The castle consists of an inner fortress, and another outside, separated by a wide water ditch, and another ditch surrounds the castle from the outside.

The outer fort has 13 towers, most of which are located on the south side because they are not naturally fortified like the other sides surrounded by deep valleys. The castle had a moving wooden bridge leading to its entrance, which was replaced by a stone bridge. The main entrance is located on the east side, above which there is an Arabic inscription mentioning the date of the renovation of the fortress in 1271 AD (Abdulkarim, 2016).

The Fortress of (Al-Hosn) and Saladin Citadel were registered in the World Heritage List in 2006.

The terrorist groups occupied (Al-Hosn) castle in July 2012, following which violent clashes broke out with the Syrian army, using all types of weapons. Because of the height of the area that controls most of the neighboring areas, the battles continued until the Syrian army liberated the area on March 20, 2014 (Cunliffe, et al., 2014).

Restoration works in Al-Hosn Castle:

After the battle between the Syrian army and the terrorist gangs that occupied Qalqat al-Hosn was resolved, and after the army and the engineering teams were assigned to clean the remnants of terrorism, the role of the Directorate General of Antiquities and Museums came into play in uncovering the situation of the fortress, assessing damage, and developing intervention strategies to work within, including restoration and rehabilitation (Abdulkarim, 2016).

The construction of the castle has already been revealed by a specialized technical team from the Directorate of Antiquities of Al-Hosn and the Directorate of Engineering.

Strategies for working within the castle have been developed and a three-phase action plan has been identified:

The first stage:

- Cleaning works were carried out inside the castle for all the waste resulting from using the castle by armed gangs (rubble - furnishings - water tanks - fuel tanks - electrical wires - water pipes – garbage).
- Accurate documentation of all damage caused to the castle, using engineering surveying and photographs, was carried out systematically and scientifically.
- All the collapsed stones from different parts of the castle were sorted and grouped into the nearest point of their collapse and numbered to be used for the construction in their original places when the reconstruction and restoration work begins (Abdulkarim, 2016).
- Emergency temporary reinforcement work has been carried out for hazardous parts that are threatened with collapse, in order to protect individuals who carry out cleaning and sorting operations (Abdulkarim, 2016).
- The areas of cracks and displacements were spotted in the walls of the castle, as a result of the collapses that occurred, and then they worked on finding suitable solutions for them.

The second phase:

- After the engineering teams and specialists of the Department of Antiquities evaluated damages in the castle, detailed studies of the work were developed for the restorations and reconstructions required, according to the importance and priority.
- The executive document has been prepared for all previous works, implemented since the liberation of the castle.

The third phase:

- Completing of the administrative procedures required to carry out the previous studies, and announcing the tender for the workshops and institutions that wish to participate in the repair work, contracting the best ones, and starting the implementation of the restoration work (Abdulkarim, 2016).

The damage suffered by Al-Hosn castle is considered a minor damage compared to the intensity of the battles that happened. The Department of Antiquities of Al-Hosn has worked on the development of an explanatory form to assess the damage to the different parts of the castle, the degree of severity, the quality of the intervention it needs, and the reality of the damage can be summarized as follows:

Most of the damage to the castle was concentrated in the cavity called the Knights' Hall, where the outer façade of the hall, the entrance to the hall, the wall above the gallery, the outer wall of the hall from the outside, and the western wall of the hall were damaged (Shadi, 2015).

The nature of the damage, according to its severity and its current state, was divided into three types:

- Minor damage: pollution of the eastern wall of the hall from the outside, the west of the inside, part of the roof of the gallery, and the hall by the coal dust, as a result of the set fire inside the hall by the armed groups. This slight damage was assessed as it has no significant effect on the structural stability of the hall. The suggestion was that the intervention should be limited to simple cleaning works, using light water pressure, brushes to clean contaminated surfaces of stones and ceilings. Medium damage: it is the fall of the entire decorative elements of two arches, and part of the decoration of the third arch, with the fragmentation and break in some stones, the pillars of the arch of the entrance, and the stones of the threshold of the three arches, in addition to breaking one of the decorative columns of the entrance of the hall. And the current state of this damage was assessed as not seriously affecting the structural stability of the facade. The best intervention to remove minor damage is to restore the decoration to their original position, similar to the first and second arch, clean

the crumbling stone faces beneath the struts and complete the missing stone. The proposed method of intervention is to document the decorations of the intact arches, then to reconstruct the affected arches, similar to the decoration of the intact arches, using the same materials and traditional techniques, and completing the missing stones from the affected areas, with the same dimensions and properties of the stones intact (Abdulkarim, 2016).

- Extreme damages: The main damage was the fall of one of the decorative pillars of the entrance of the hall and a crack in the wall above the hallway, which caused a partial collapse of the inner face of the wall and the collapse of the fill with a separation between the two parts of the wall, in addition to the cracking of the door leading to the roof of the hall. The structural evaluation of the risk was that the collapse of one of the pillars of the entrance of the hall does not affect the structural stability of the façade, but there is a danger of the collapse of the other stones of the inner wall above the hallway. The proposed intervention is temporary consolidation of the two sides of the wall, pending restoration work, sorting, numbering and documenting the collapsed stones, to return them to their original places in the process of restoration. The implementation of the proposed intervention was carried out by implementing wooden and metal beams to the two sides of the cracked wall, reconstructing missing stones from the wall with intact stones, and the completion of missing ones, and the implementation of the fillings using traditional methods and techniques (Abdulkarim, 2016).

The previous steps have already been followed by the start of the initial restoration work of Al Hosn Castle by specialized teams of engineers and restoration experts, and according to the proposed intervention methods in the initial evaluation forms. To date, most of the works have been completed, hoping to close the restoration work and the touristic rehabilitation of the Citadel very soon, with the aim of reopening it for visitors.

2.2.5.5. Dead Cities

Ancient villages in the limestone mass (dead or forgotten cities), is one of the most prominent archaeological gatherings in the north of Syria .

The archaeological sites of the villages in the north of Syria cover a large area ranging from 20 to 40 km, from east to west, 120 km from the north at the Turkish border, to the south to the ancient city of Afamia. The northern border corresponds with Cyrrhus (Al-naby Hori-Prophet Hori) 70 km northeast of Aleppo, halfway between Antioch and Zogma on the Euphrates (Joudallah, 1999).

The archaeological villages are divided into eight archaeological gardens located in the north-west of Syria, namely the Citadel of Samaan, Brad, Sankhar, Bara, Ruwayha, the heart of Al-Luza, Baqarha, and Mount Wastani).

These villages, numbering more than 700 villages, are spread over the various rolling highlands of a series of mountains, ranging from 400 to more than 900 meters in the mountains of Semaan, Al-Haleeka, Barisha, Al-Wasani, Al-Wasatani, Douwili, Zawiyah. Some of them - about 60 sites - are characterized by excellent architectural condition until the beginning of the Syrian war, despite the natural and human destructive factors that it has been exposed to over time, due to the nature of the materials that were used building them which is limestone, where some façades of a number of houses are still up to the ceiling level (Abdulkarim, 2016).

These ancient villages date back to the Roman and Byzantine periods, some of which had been migrated since the eighth century AD, while some of the houses continued to be used in other villages for later periods. Some of the current residents are either living in a number of old houses or using their strong stones to build their new homes. This has led to the complete disappearance of a number of them in their nearby plains (Karim, 2011).

Researchers have been interested in ancient villages in the limestone mass for several decades, beginning in the middle of the nineteenth century until the beginning of the Syrian war in 2011. National and foreign missions carried out many studies in this

region, using modern techniques in scientific research. Also, national and international organizations, such as the General Directorate of Antiquities and Museums, the French Institute for Near East Antiquities, the Swiss Agency for Development, etc., have given great importance to preserve these villages and to protect them, according to the adopted worldwide scientific bases.

It carried out architectural, excavating and surveying studies to protect these villages from destruction and vandalism which may lead to the erasure of precious archaeological evidences of its history, as well as its emergence as an important world cultural product that can be included in the list of world cultural heritage. For several years, the Ministry of Culture of Syria, in coordination with the World Heritage Center of UNESCO, has prepared the ancient villages registration file, which their landscapes are rare scenes from the Roman and Byzantine eras, and has nominated them to be registered on the World Heritage List (Karim, 2011).

Their Nomination and listing on the World Heritage List:

The ancient villages in the limestone mass were characterized by many important features, which supported the file of their nomination for the World Heritage List, including the following:

- Excellence in the region: The uniqueness of this nomination, if they were compared to the neighboring countries, the Arab region contains only a few natural sites, cultural scenes recorded on the list of cultural heritage until today, so it is clear that the registration of this region had a positive impact at the regional level (Karim, 2011).
- Excellence in the world: Although some of the most important Byzantine sites, Gravina in Italy, Salonica in Greece, Istanbul city center ... etc, have been registered on the list of cultural heritage, but the list before the inclusion of dead cities in it did not yet contain rural models representing rural life at the end of the Roman and Byzantine eras. The archaeological villages in the north of Syria are unique and difficult to compare between them and the other sites listed on the list (Abdulkarim, 2016).

Ancient villages (Dead Cities), in northern Syria, were registered on the world heritage list as a unique area, representing a unique cultural landscape that includes many abandoned stone monuments, are still in good condition of preservation within its natural environment, shed light on the history of the region, especially during the Roman and Byzantine early times. What helped the dead cities to be included on the World Heritage List, is that they complied with three criteria of the UNESCO's multiple criteria for the registration of archaeological sites on the World Heritage List, that are the third, fourth and fifth criteria.

- The third criterion: that the site constitutes an extraordinary evidence to a living or ancient civilization. This applies to the area of limestone mass, where at least 700 villages have been built and for more than seven centuries (Karim, 2011).

- The fourth criterion: that the site includes a prominent architectural or technical group, showing important periods of human history. Indeed, the survived buildings in limestone villages(dead cities) is an unmatched state of preservation and resistance to time factors, making it an old lingering realistic image that provides a complete view of the daily life, social and economic life of the countryside during the late Classical and Byzantine periods. Thus forming an architectural group within the Mediterranean basin, showing in particular the development of rural residential architecture between the first and sixth centuries AD (Karim, 2011).

- The fifth criterion: that the site is a prime example of traditional human settlement and traditional land or sea use, representing a civilization or the interaction between man and the environment, especially when the environment becomes vulnerable to irreversible transformation. Clearly, the villages of the limestone mass (Dead Cities) represent a remarkable example of man's interaction with the environment at all stages, starting with his first settlement in the region and reclaiming the land in the first century AD, in order to secure his livelihood and develop his surrounding conditions, and his transformation into a life of luxury and prosperity, which has been completely reflected on the forms of buildings in the region from the beginning, and some of them introduced to the methods of production, and its techniques and sizes too, by finding dozens of oil-presses, used for produceing the olive oil or vine (Khirfan, 2016).

Overview on the History of Settlement:

The area of the limestone mass was a settlement from the beginning of the first century AD and continued until the middle of the third century, around 250 AD when it began to suffer from various disasters. In the period between 250 and 330, the region was exposed to an economic crisis, in addition to the spread of epidemics and diseases, such as plague, because of wars with the Persians (Joudallah, 1999). Then the activity returned and flourished in the fourth century AD, the population began to grow, and the architectural works were also active, especially during the fifth century AD. But since the middle of the sixth century AD about 540, the region began to lose its vitality and activity, as a result of the wars that took place between the Byzantines and Persians-Sasanians, which led to the spread of epidemics, as well as the famine spread among the population, as referred to by historical sources as Syriac Yearbooks, because of the great increase of population. The production became not enough to cover the needs, and the trade routes with neighboring cities such as (Antequia, Apameia, Seleucia, Laodicea and Chalcis), in the aftermath of the wars, shifted to the Mesopotamia and the Arabian Peninsula. In addition, they were also exposed to natural disasters such as drought, which they suffered for many years, as well as earthquakes that hit the region.

The war continued till it reached its peak in the seventh century, forcing the population gradually to migrate to the neighboring cities or plains until they were completely abandoned in the 10th century. However, some of the few villages remained somewhat inhabited, especially in the north where it has been shown by the Islamic monuments of buildings, mosques, fortifications, and tombs (Karim, 2011).

Life has returned to some villages, especially those on the roads, such as Bara, after the Mongol onslaught against the region in the 13th century. After their independence, the new inhabitants resettled in a number of these villages, damaging many of the monumental buildings on large tracts by reusing them or using their stones for various purposes (Karim, 2011).

The reality of the dead cities in the Syrian war:

The damage that the inhabitants inflicted on these villages in the thirteenth century was not the last of these ancient villages, but the vandalism and the encroachment on their

archaeological structures continued, until the General Directorate of Antiquities and Museums -in the second half of the twentieth century- took its role in the care and protection of these villages, and their restoration and touristic rehabilitation, to be included in the list of world heritage in 2011.

However, with the beginning of the Syrian war, the Syrian north area which is close to the Turkish border, which included the ancient villages, was one of the first to get out of the Syrian state control and became under the control of the various terrorist gangs (Cunliffe, et al., 2014). This is where the tragedy that took place in these archaeological areas began, as a result of their presence in the fiercest areas of conflict between the Syrian government and the armed terrorist gangs, and also under the weight of the conflict between the conflicting terrorist gangs (Shadi, 2015).

The forgotten cities were subjected to many acts of looting and sabotage. These acts included the digging of tombs, the destroying of the ancient columns, carrying out illegal and indiscriminate excavations, stripping decorative objects from the sites such as the theft of columns' heads, coffins and carvings, the destruction of walls and stone masonry, the destruction of some facades, the breaking of signs, and the destruction of stone coffins, as well as the construction of illegal buildings, the theft of the contents of houses of archaeological missions, and looting of their equipment (Abdulkarim, 2016).

In addition they robbed the mosaic floor of forgotten cities, and the surrounding areas, which were found and preserved in their location, previously, or stole parts of them, as in Tal'ar Gharbi and Babuline.

Some archaeological sites and their buildings were also used as headquarters for armed gangs and as warehouses for their weapons and ammunition. Some of them were used as residences for the displaced fugitives from the neighboring conflict areas. Some of the buildings were roofed and equipped for habitation. In addition, the clashes that took place near the archaeological sites caused damage to some of the archaeological buildings, as happened in Al-Bara (Shadi, 2015).

A catastrophic phenomenon was also observed, the destruction of large old stones from archaeological sites, and preparing them to be used again in newly constructed buildings. The major phenomenon is that this phenomenon has become very popular in

the war, in the context of high prices of building materials, such as cement and pumice, where mercenaries and thieves break down large archaeological stones into small stones, suitable for using them in reconstructing modern buildings.

This work is one of the most serious disasters that are exposed to archaeological sites, which represents a threat such as their disappearance forever, and though it is not a new phenomenon on archaeological sites, as it may have occurred in the past, but on an individual scale is rare. But now according to the information, it has become more common.

Examples of sites that have been vandalized are serjabla, Kafr Hawr in the northern countryside, Kafarakab and Al-Fasouk in Al-Wastany Mountain (Abdulkarim, 2016).

In fact, it is not possible to accurately define the damage caused to these sites that are located within the forgotten cities because of the consequent risks and the lack of reliable sources in those areas, unreliable information, and there may be infringements on other sites, which are not yet accessible, due to the control of armed terrorist groups throughout the region, to the date of writing these lines.

2.2.5.6. Aleppo

Aleppo is one of the oldest cities in the ancient East. It is one of the oldest inhabited cities in the world, after the city of Damascus, which contains more than 150 archaeological sites of great importance, representing different civilizations and cultures, characterized by the Syrian north. Since its inception, Aleppo has played a central commercial role, linking Asia and Europe, since the beginning of the second millennium BC. This importance reached its peak between the 16th and 18th centuries (Joudallah, 1999).

In the center of the old city lies the citadel of Aleppo, which dates back to the 10th century BC and is 40 meters above the surrounding archaeological area. It stands on the ruins of the previous civilizations (Aramaic, Hittite, Hellenistic, Roman, Byzantine and Seljuk) and the Ayyubid and Mamluk buildings that distinguish its current architecture (Gonnilla, 2006).

One of the most famous heritage sites in Aleppo is the Great Mosque (Umayyad Mosque), built in the Umayyad period, rebuilt in the 12th century, and its unique Mamluk minaret, dating back to 1090 AD. Next to the Umayyad Mosque there is the Byzantine cathedral, which later became the Halawiya School for teaching the Qur'an, as well as many important mosques, churches, public baths, Khans and old markets, and many Islamic schools, built between the 16th and 17th centuries (Joudallah, 1999). This diverse and integrated archaeological structure as a cohesive group formed the unique cultural fabric of the ancient city of Aleppo.

DGAM played a major role in the protection of the ancient city of Aleppo and worked in a distinctive and serious manner, in coordination with UNESCO, until the ancient city of Aleppo was included in the World Heritage List in 1980. Since 1992 the Directorate has worked on implementing the restoration and preservation projects and the touristic rehabilitation for the archaeological buildings in the ancient city, supporting development projects in the region, and stimulating tourism in the archaeological sites in Aleppo and its surroundings (Gonnella, 2008).

However, like other cities in Syria, Aleppo was one of the cities that suffered the most from damage of the war and the devastation caused by violent clashes, as some of the conflicts were concentrated in the old city, that parts were left as scattered ruins, causing it to lose the quality of life, the emigration of people to that area with the beginning of war.

The city of Aleppo entered into the Syrian conflict after the extremists took control of the Aleppo countryside and began their attacks on the city's perimeter. They entered it in 2012, where fierce battles broke out and changed the shape and landmarks of the archaeological area, especially in the castle and its surroundings (Cunliffe, et al., 2014).

In the summer of 2012, with the intensity of the armed conflict in the city, a group of ancient covered markets in the area of Aleppo Castle, dating back to the fourteenth century AD, were burned.

In the spring of 2013, it was reported that the minaret of the Great Mosque in Aleppo was destroyed during the fighting, and by the beginning of 2014, a large part of the eastern wall of the mosque and its interior courtyard was destroyed (Shadi, 2015).

Much of the destruction is concentrated in the southern part of the citadel, where the area contains government buildings, such as the Ministry of Justice, the police headquarters and the Grand Serail in Aleppo, which was the main government building in the city in the period of French mandate.

By the beginning of 2014, terrorists had dug a tunnel under the 19th-century Carleton Hotel, which was completely destroyed. On August 14, the Khasrawiya mosque, which was built in the mid-16th century, was completely destroyed and what was left was a huge hole with a diameter of 40 meters.

Then the eastern wing of the Grand Serail next to the castle was destroyed. In addition, other historic buildings were badly damaged and turned into rubble, as was the case with the Sultan's School, the Yalbugha Mosque, and Khan Qart Bey, in addition to extensive destruction of the buildings and the private property surrounding the castle (Abdulkarim, 2016).

North-West area: Buildings were damaged, but less extensive than in the vicinity of the Citadel. Several cases of destruction have been recorded in this area, one of which is the Almamandar Mosque that was built in the 14th century.

The north-eastern area of the Old City: Several important archaeological buildings, including the Iron Gate, many markets and old baths were damaged.

The World Heritage Department and the General Directorate of Antiquities and Museums in Aleppo compiled a list of more than 121 damaged buildings.

On 22/12/2016, the city of Aleppo was declared a safe city, after the defeat of terrorism and the departure of the terrorists from it (Lilas, 2017).

Immediately afterwards, the Syrian army combed the old city and used explosives experts to remove the mines left behind by armed gangs. After the city was secured, the various state institutions, in collaboration with the governorate, began clean up, removing rubble and opening roads.

The DGAM returned through the Directorate of Antiquities of Aleppo to inspect the destruction of the citadel and the archaeological sites in the Old City. It also prepared a list of the damaged sites, the damage severity varying from one site to another, and developed plans to restore and rehabilitate the Aleppo Citadel and the surrounding sites according to priority.

In this context, the Ministry of Culture and DGAM signed contracts with international institutions specialized in the restoration and rehabilitation of archaeological sites, such as the AKAC, which previously worked on the restoration and rehabilitation of Aleppo Castle and its surroundings before the crisis. Other missions and international organizations working in the same field have also been contracted.

The restoration works are still going on in the citadel of Aleppo and the Old City until now. These works will probably take years, due to the great destruction that the Old City has suffered.

The above is a brief explanation of the damage that occurred to the ancient city of Aleppo, one of the World Heritage Sites in Syria during the Syrian war, which will be dealt with extensively in the third section of this research.

Chapter III: The Case Study

2.3.1. Introduction

The Aga Khan Trust for Culture (AKTC) leading a number of important programmes, including the Historic Cities Support Programme(HCSP), the Education and Culture Programme and the Aga Khan Award for Architecture.

The Historic Cities Support Programme was established in 1992, to promote the conservation and re-use of buildings and public spaces in historic cities mainly in the Islamic world. And its objective was to undertake the restoration and rehabilitation of public spaces and historic structures in ways that could spur social, cultural and economic development (Culture, 2001).

The (HCSP) works on technical restoration and addressing the questions of social and environmental context, community participation, adaptive reuse, training and institutional sustainability.

In many countries, local Aga Khan Cultural Service Companies have been formed to implement projects under the supervision of the Historic Cities Support Programme headquarters in Geneva (Culture, 2001).

HCSP has pursued revitalization projects in six different places in the Islamic world, In Zanzibar, Samarkand, Cairo, Northern Areas of Pakistan, Bosnia and Syria, including twenty distinct and interconnected projects.

The essential goals in all project locations, were the community participation, training of local professionals and local institution-building (Culture, 2001).

The Trust's involvement in Syria is the most important HCSP initiative. It stemmed from a request from the Syrian Antiquities Department, in late 1999, to provide technical assistance on the conservation and re-use of a number of historic citadels in the country.

On 1st of December 1999, the Aga Khan Trust for Culture (AKTC) signed a Memorandum of Understanding with the Directorate General of Antiquities and

Museums of Syria (DGAM) to provide support for the restoration of three castles in Syria (Aleppo, Masyaf and Salah Al-Din).

Work began at the three Castles in 2000 with a thorough survey of the three citadels, evaluation of various criteria, such as architectural remains, site potential, accessibility and urgency of intervention, and a great deal of work was done there, through cooperation with the Directorate of Antiquities of Hama (AKTC, 2007).

Most of the areas within the sites have been selected as the centerpiece of conservation and conservation efforts, with DGAM intention to take advantage of this experience and continue to work elsewhere using the methodologies and skills acquired during the implementation of this joint project with AKTC.

The work was carried out according to international standards and the appropriate conservation and rehabilitation methodology. The selection of sites to be restored was the result of in-depth analysis of the history of the monument, its building, and structural state. The required surveys were carried out, with an analysis of old building materials and damage factors that it encountered (AKTC, 2007).

AKTC has contributed to conducting training courses in order to qualify the calibers of DGAM staff, contractors, and local craftsmen. And this with the help of international and local experts in the field of documentation, conservation and restoration work, and dealing with historical sites, and providing guidance on proper environmental protection and management of complete sites, creating visitor routes of touristic interest in neglected areas (which would thus receive new economic stimulation) as well as establishing documentation and guide books for visitors (AKTC, 2007).

AKTC has carried out most of the work, with a team working directly under its supervision, with the aim of upgrading the local restoration skills.

2.3.2. Masyaf Castle

2.3.2.1. Historical overview

The town of Masaya is located in the center of western Syria on the eastern slope of the coastal mountains.

Masyaf castle -that were built on a rocky cliff- is nowadays the product of several stages of construction over time, marked by many structural changes and destruction from time to time. The record of these changes can still be identified by a few remaining structures.

The castle, with its current structure, represents a unique cultural heritage for the quality of historical architecture, the diversity and quality of building materials, and the complexity of the various historical sections inside it.

Masyaf Castle rises on the eastern side of the old city and it is a landmark for the entire city. It is one of the most famous landmarks in Islamic architecture in the coastal region. Moreover, the castle is considered the example and the location of important archaeological investigations that has begun and has not yet ended, about the development of Islamic defensive architecture (Joudallah, 1999).

Masayaf castle considered as one of the most important strongholds of the Middle Ages, which is close to the Syrian coast. Most of the remaining buildings of the Citadel dates back to the Ismaili period in the twelfth and thirteenth centuries AD, when Masyaf was the capital of the state. While parts of the central core of the castle building are clearly dating back to the Byzantine period, and many Ottoman structural additions were added later (Hasan, 2008).

Although the history of the occupation in the castle of Masyaf dates back to the Byzantine period in general, it was an important Ismaili stronghold, governed by Sinan Rashid al-Din "Sheikh Al-Gabal", where the castle achieved its most importance in his reign.

Masyaf Castle is a completely different establishment than the Aleppo Citadel, where the Aleppo Citadel has a distinct role for fancy residence in a major center of civil civilization and an important platform for international trade. The Castle of Masyaf is a more rugged defensive castle, less architectural adornment, not built to entertain the princes, but to defend the city borders, against hostile attacks (Abdulkarim, 2016).

The mountains dominate the landscapes surrounding Masyaf and have a profound impact on their climate. Cold in the winter is more humid than many other Syrian regions and it lasts for nine months of the year, due to the strong winds blowing along the valley, making it a very harsh place to live.

Masyaf Castle represents one of the most complete medieval castles, remaining in Syria. The castle is located within the eastern boundary of the city's medieval walls. Modern Masyaf has grown significantly, over the past forty years the new construction extended beyond the walls of the Middle Ages. The modern building blocks are located on the main road connecting the south and north of the city. Some of the city's historical remains are still scattered around the castle (Hasan, 2008).

Fortunately, the construction in the fields to the east of the castle was not extended directly, which explains why the castle was on the edge of extended plains. It must have been one of the most important factors that helped to provide the inhabitants of the citadel with food. While the castle with its important position overlooking the plains, contributed to providing protection to the inhabitants of those fields.

Neglect and unprofessional maintenance were one of the problems that the structural structure of the castle encountered, while the greatest damage was the effect of the harsh climate and constant effects of damage factors on the different parts of the castle. This led to the collapse of building’s structures, cracks in roofing surfaces, which caused rainwater to leak into the walls and domes, and was the main cause of structural problems, throughout the site. Moreover, Rainwater intrusion into the walls through the stone joints built with lime mortar, gradually weakened them, causing them to bloom and crack (Culture, 2001).

- Masyaf Castle was selected for maintenance and rehabilitation processes, in consultation with the Syrian archaeological authorities, as the most famous and perhaps

most important example of Islamic architecture and the remaining Ismaili heritage in the country (Culture, 2001).

Unlike the projects in Aleppo and Saladin, the project included the maintenance of Masyaf Castle as a whole.

On 1st of December 1999, the Aga Khan Trust for Culture (AKTC) signed a Memorandum of Understanding with the Directorate General of Antiquities and Museums of Syria (DGAM) to provide support for the restoration of three castles in Syria (Aleppo, Masyaf and Salah Al-Din) (Culture, 2001).

Work began at the Masyaf Castle in 2000, and a great deal of work was done there, through cooperation with the Directorate of Antiquities of Hama.

Most of the areas within the site have been selected as the centerpiece of conservation and conservation efforts, with DGAM intention to take advantage of this experience and continue to work elsewhere using the methodologies and skills acquired during the implementation of this joint project with AKTC (AKTC, 2007).

The work was carried out according to international standards and the appropriate conservation and rehabilitation methodology. The selection of sites to be restored was the result of in-depth analysis of the history of the monument, its building, and structural state. The required surveys were carried out, with an analysis of old building materials and damage factors that it encountered.

Masyaf Castle is a very dense complex with a series of buildings and monuments with different historical characteristics. This called for diverse approaches and different forms of maintenance and restoration that meet the specific requirements of each individual structure or category of structural buildings (Hasan, 2008).

The main structures that the restoration work have focused on were the Barbican (the defensive gate), the bathroom, the stairs and the main gate. In addition to the southwest complex of the castle, tunnel, cisterns, warehouses, ring wall and towers. The inner castle and the palace complex, which contains the Byzantine castle. In addition to the eastern and western balconies (AKTC, 2007).

2.3.2.2. Structural problems and challenges of restoration work

During the preliminary survey in the castle, a number of serious structural problems reveled, the most urgent was the major collapse of the wall of the castle's eastern Curtain wall. Damage to the outer wall resulted in the loss of pressure on the internal vaulted domed spaces in the galleries, making them unstable. As a result, the stones continued to fall from the roofs regularly, thus causing a disturbance in the delicate balance between the internal thrust of the vaults and the pressure applied by the wall from the outside (Culture, 2001).

This unstable structural situation not only endangered the site's visitors, but also created a risk of catastrophic collapse of a large section of the lower-eastern part of the castle. In light of this, a decision has been made, in coordination with DGAM, to focus all initial efforts to resolve this problem.

In any solution to be followed, there should be a structure connecting the collapsed outer wall and the vaults of the internal chambers that are based on it, to create a stable balance between the external pressure force of the wall and the internal thrust force carrying out by the block of domes (AKTC, 2007).

Two possible treatments were proposed to solve this problem. The first is the less radical option, which involves removing the remaining stones from the wall and re-installing them using long steel screws. This method of treatment was immediately rejected because it was impractical under the structural conditions of this situation. The second option, which is the most optimal and direct one, included the reconstruction of the falling section of the wall. While this solution is technically feasible, it raises the question of conservation philosophy! Will the reconstruction process be acceptable in this context? For what the reconstruction issue faces of problems and complexities. To solve this problem, the eastern section of the rebuilt curtain wall was given a distinctive dark brown color, in order to be distinguished from the original wall color (Culture, 2001).

The reconstruction of the wall required accuracy and skills similar to that used by photo designers, to recreate the shape that the wall would have originally been, combining its appearance with the context of the monument as a whole, but differs it from color, in order to be accurate and credible and to preserve the authenticity of the archaeological construction without falsification (AKTC, 2007).

In the preparations for the reconstruction of the wall, the remaining part of the wall was surveyed and the part to be added was designed. However, the restorers had difficulty finding polished stones, suitable for the original color of the wall stones, and in the appropriate sizes. Where it is believed that the original stones of the building were extracted from the rock outcrops near the site, and this is not possible at that time, so the workers were forced to search for suitable stones, and indeed they were found and transported from the city of Hama, 40 kilometers east of Masyaf. Which was an additional difficulty for work (AKTC, 2007).

The stones were cut in situ in cubic shapes according to the required sizes, without affecting the stone face. They were then lifted using a huge crane and fixed to the desired location in the wall using lime mortar (Jodidio, 2011).

The stainless steel screws in addition to the molten hot lead were used to stabilize the stones in both the horizontal and vertical dimensions. Before the fixation of the new stones, it was necessary to reinforce what remained of the original wall, which the new stones would be connected to. The solution was to inject the concrete mortar behind the wall, in order to unify the wall's components and to give it a kind of structural stability. To complete the work to the fullest, the lime mortar was washed between the stone joints, with a mixture of lime and iron oxide, to give it a color that matched the original color and texture of the wall (AKTC, 2007).

Modern restorations have repaired the structural problems caused by the incorrect partial reconstruction works carried out by DGAM for a part of the destroyed defensive tower, located north of the eastern wall. Where the last faulty repair work had to be dismantled, and a more professional and quality alternative restorations were put in place to unify the relationship between the destroyed tower and the curtain wall. This was done by inserting stainless steel screws connects the tower to the curtain wall,

which was further reinforced and supported by the construction of a small wall that connects between the curtain wall and the tower body.

Sensitive and very precise repairs were made in the southwestern tower, which began to slowly wither toward the west, causing cracks in the building joints and disturbing fractures in the walls. This collapse in the tower was caused by the collapse of a large section of the gate vault, which used the base of the tower as a supporting point at the east (AKTC, 2007).

2.3.2.3. Restoration and preservation process in the castle

Large amounts of rubble caused by collapses in the castle have accumulated as a result of earthquakes in addition to the neglect of the castle. As well as the inhabitants of the castle in successive stages of history fill the floors of rooms, halls, and corridors with rubble, to raise the level of flooring, which caused several problems, the first of which was the difficulty of water draining in the castle, and impeding the access of visitors throughout the castle, and it became difficult to understand the structure of the castle (Jodidio, 2011).

The debris was carefully removed and in some cases, distinct discoveries have been found, where a number of architectural details, which were not previously expected, were revealed because of their coverage with rubble.

For example, in front of the long covered corridor, behind the western wall of the fort (which is considered part of the Bashoura), a deep hole was discovered in the rock, which was believed to have been used to store grains (Hasan, 2008).

Archaeological excavations led by DGAM were carried out, together with ongoing maintenance, which in turn resulted in a number of interesting discoveries. In one of the rooms on the southwest side of the castle, the remains of a brick oven, which had been flooded with rubble were discovered. At the end of the project, an archaeological survey of the castle's surface revealed traces of brick floors suggesting that the castle was earlier, at least one floor higher, and that the supposed upper floor might have been occupied by more formal rooms (Hasan, 2008).

In the past, maintenance and repairs of parts of the castle were carried out, but it was not successful, most of which were inappropriate interventions for modern restoration techniques, and within the new restoration project, a great effort was made to remove or mitigate the effects of the previous repairs. In this context, cement mortar, which is not only bad-looking but has a negative impact has been removed, resulting in long-term damage, through the infiltration of salts to the archaeological construction structure. Systematic work has been done, the concrete mortar was removed from all parts of the castle and replaced with a new lime mortar.

From the previous unsuccessful restoration interventions, which have caused considerable damage, in terms of structure and construction, are reinforced concrete lintels, which were added to cover the top of the doors and windows, where this addition was impractical, and sometimes more destructive. One of these examples, in the second room from the main entrance, a large stone lintel covering the entrance gate was replaced with a reinforced concrete beam, which was technically inefficient and bad shape looking. To solve this problem, a decision was made to replace this concrete lintel with a new stone lintel, carved from hard black basalt (Hasan, 2008).

This process was very difficult because of the huge size of the new lintel, its high weight and the difficulty of lifting it to the place where it would be placed accurately above the door. The lintel of raw basalt has already been designed, slowly raised to the desired position, and then the wood panels and pulleys have been used to rotate the threshold, to take its proper place (AKTC, 2007).

Many of the spaces within Masyaf castle are roofed with vaults. The collapse of these partially collapsed vaults undermined parts of the building and threatened the safety of visitors due to the fall of stones from the roof or the risk of sudden collapse. In the past, there was a limited reconstruction of these vaults, which were limited to returning the fallen stones to their places, where possible (AKTC, 2007).

The northern entrance to the upper fort (in Sectors E17 and E16) was originally well-domed, but most of the vaults stones were collapsed. The rest of the original ceiling was unstably stabilized standing on four small stones in one wall. If the stones fall the remaining structure of the dome will be completely destroyed. The response to this problem was the reconstruction of that part of the wall on which the basement based on,

with great care to preserve the original mortar. The vault stones were also removed and re-installed, using stainless steel screws, and molten hot lead. The other stones were deeply dipped using lime mortar (Hasan, 2008).

The leakage of rainwater through surfaces, domes and walls, in addition to the poor drainage of water in the floors, and the penetration of water within the foundations of the walls of the castle, are some of the most important threats to the structural structure of the castle, which threatens the parts of the castle with erosion and collapse. Many modern treatments were applied to get rid of water leaks in open top surfaces, which were not equipped to resist water leakage and other damage factors when they were built. Many of the techniques used to isolate these surfaces failed. However, the recently adopted solution used the same old traditional technique used in the Middle Ages, which continued to be used to insulate the roofs of public buildings until modern times. Where a type of water-resistant green clay was used, and it was brought from a place adjacent to the city of Masyaf (AKTC, 2007).

Several experiments and tests have been carried out to determine the best ways to use this clay as a waterproofing agent within the surfaces. It was even found that, a mixture consisting of one part of the lime, into four clay parts, with the addition of one part of coarse gravel, it is very efficient, and this mixture is added to the surfaces, to protect them from all the weather factors.

In order to protect the mud surface from erosion by visitors' feet, a layer of gravel was added with a certain thickness, which was regularly laid over the new insulation surface (AKTC, 2007).

This type of surface treatment has proved to be good in keeping the domes and surfaces during several consecutive winter seasons. To achieve more effective results, it is necessary to apply the periodic maintenance work and work to get rid of harmful vegetation, which grows on surfaces and their routs cause breaking the surfaces, and thus leak again. If these details are taken care of, this ensures, to a certain extent, that the surfaces remain dry and intact.

The remaining original gypsum works in the citadel, are relatively few, great efforts were made to preserve them from damage. Where the old plaster in a damp place is

often weak and crumbly, especially when it covers the surfaces, which is very vulnerable to damage and corrosion (Culture, 2001).

Many modern materials are used to clean the plaster, but the restoration specialist at the castle preferred a treatment that applies a distilled water sprayers, which is a very simple and effective traditional treatment. As for the use of the new plaster, intensive scientific studies have been carried out and the best methods related to the formation of the new plaster used in restoration and repairs were followed. The basic principle in the use of modern plaster was that, when dealing with weak historical material, it is essential that the new material added to it had almost identical physical characteristics (Hasan, 2008).

The most important feature of plaster preservation is the meticulous cleaning of one of the important inscriptions in one of the rooms of the entrance tower and the restoration of one of the frescoes in the ceiling of the southern entrance to the upper castle.

- One of the challenges of conservation work is the cleaning of old porous building materials, which is a very arduous task, and should only be done when necessary, i.e., when the existing pollution is likely to damage the old surface and the cleaning process is to be done without causing more damage.

The roofs of each of the cellars and inscriptions were covered with dirty black spots that were attached to those surfaces tightly. By conducting a microscopic examination of these black spots, it showed that the active substance of the dirt, seeping into the porous cracks of the stone surfaces, interacting with them, leading to their fragmentation and fall, it was clear that conservation requires removal of such dirt. In this context, on-site tests were conducted to determine the types of the soluble mineral salts contained in this "dirt", to determine their nature and to select the optimal materials that could be used to process them (AKTC, 2007).

After conducting the laboratory analysis necessary for the nature of the dirt, it was found that both Sulphates and carbonates exist within them, suggesting that the component of the "dirt" composed of airborne dust particles, which are placed on the stone surfaces mixed with calcium sulfate, which is a soluble salt in water. The best solution was to remove the dirt, by slowly dissolving the calcium Sulphate, and then

releasing the dust that it carried. Where this can be achieved with as little risk as possible on the historic surface and then cleaning it with the sprayed distilled water sprayer (AKTC, 2007).

2.3.2.4. Working on the historical bath

At the beginning of the restoration project in the castle, there were traces of mural heads that rise above the surface of the soil next to the staircase leading to the gate of the castle, in addition to a Byzantine column head that is located next to the staircase, indicating that another structural structure may be hidden beneath it (Culture, 2001).

In 2003 archaeological excavations were conducted in the vicinity of the castle stairway, gradually revealing the remains of a small traditional bath, consisting of two main sections, and an oven room, which seems to have been constructed in two phases (Hasan, 2008). The first phase dates back to the Ayyubid period, the second phase is of the Ismaili control period on the castle, where some modifications were made to this bath. The most notable feature of this discovery is the discovery of large areas of original wall plaster, and most interesting, is the discovery of a decorative red painted strip that is still visible on the surface of the plaster.

Once the archaeological excavations in the bath have ended, the AKTC faced a serious dilemma, in how to preserve what has been discovered. As starting conservation work on the bathroom and taking the necessary measures to restore it will deprive historians and archaeologists of an important part of historical data, and on the other hand, leaving this discovery without conservation work is not a right choice, because it will expose it to damage and destruction.

In this regard, DGAM has taken a decision to establish a new roof covering the original remains, using the original exposed wall heads, as foundations. And using traditional materials (stone, limestone) to build the walls and domes, where traditional techniques were applied to complete the structure (Hasan, 2008).

2.3.2.5. Park Area

Since its establishment in the Middle Ages, the castle with its perimeter wall formed the northern edge of the city of Masyaf. Until the 1930s, an empty rocky area separated the castle from the urban fabric of the city. Over the past 50 years, this intermediate area has been lost between the castle and the town, flooded by a group of "illegal" concrete buildings, which hampered the castle's view from the city center (Culture, 2001).

Since the project of the castle rehabilitation was a part of a larger project, it was a more comprehensive urban rehabilitation, includes improving public spaces and the old central market. AKTC in collaboration with the Municipality of Masyaf, managed to persuade the occupants to leave, in exchange for generous compensation. In 2003, after the evacuation of the houses, all of them were demolished and the area around the castle was cleaned up and the so-called "park area" was restored as an insulating rocky landscape (AKTC, 2007).

The removal of the random houses around the castle was like removing a veil that hides the beauty of that castle and bringing it back to life as a clear and distinctive landmark in the city.

2.3.2.6. The infrastructure of the visitor

The main objective of the restoration project in the castle, in addition to preserving the castle and protecting it from damage factors, is also the touristic rehabilitation of the site and improving the visitors' experience in the castle. In addition, placing the city of Masyaf on the tourist and cultural map of Syria, A country that began in 2000 to make increasing efforts to attract foreign visitors to its many impressive sites. The aim was also to restore the castle and make it an incentive for social and economic development in the city, especially through tourism (Culture, 2001).

In order to develop visitor facilities, the infrastructure networks within the castle were planned and installed in cooperation with DGAM.

AKTC has set up a small visitors' center inside the castle, which contains an exhibition explaining the history of the site, the most important historical phases of the castle, and the successive people who inhabited the area. In addition to the development of tourism interpretation at the site, by preparing a tour for tourists within the site, through the

design of a tour plan, showing the paths that the visitors must follow in their movement inside the castle. In addition to the preparation of the tourist path and the installation of signboards inside the site, the manuals which were available in the new visitor center, were designed. A Middle Ages model of the castle was also replicated to give the visitors a more comprehensive view of the shape and history of the castle. The natural rocks of the site were uncovered and cleaned, underground electrical networks were installed, the castle was provided with water closets (W.C), and everything the visitor needed was inside the site (AKTC, 2007).

After the completion of the rehabilitation project of Masyaf Castle, the castle was incorporated into the "National Plan" set by the Ministry of Tourism. The number of visitors has increased dramatically, from 500 visitors a year, to more than 6,000 visitors in 2009 (Jodidio, 2011).

Summary of the work dates in the castle:

The project began in 2000, with documentation processing and definition of the concepts and principles of the conservation process. During the mission, detailed documents, including topographic and architectural surveys, were created for the six main levels of the castle. As well as drawing accurate plans for these levels and sections (Culture, 2001).

In 2001, the restoration of the eastern wall was implemented as a priority that had to be completed first.

From 2001 to 2003 efforts focused on the core of the castle, which provided major structural issues. Particularly in the western and eastern regions. During this period, archaeological excavations were conducted (AKTC, 2007).

Between 2002 and 2004, the roof and floor insulation works were completed in the entire castle. The drainage problems were solved by directing the water away from the walls foundations to avoid worsening the current problems of erosion and future landslides where all the castle walls were repaired and their foundations were often covered with moisture proof covers.

The entrance complex, inside and outside the gate, was preserved during 2004 and 2005. Where the task was to preserve the traditional bathroom, the Barbican, remove the stairs that were previously added to reach the castle, and to use the medieval stairs which discovered during the project.

In 2006 and the beginning of 2007, the efforts were focused on the development of visitors' infrastructure: access, visitors centers', trails, signs, public utilities, sanitation and car garage beside the castle (Jodidio, 2011).

AKTC has contributed to conducting training courses in order to qualify the calibers of DGAM staff, contractors, and local craftsmen. And this with the help of international and local experts in the field of documentation, conservation and restoration work, and dealing with historical sites (AKTC, 2007).

AKTC has carried out most of the work, with a team working directly under its supervision, with the aim of upgrading the local restoration skills.

2.3.3. Salah Al-Din Citadel

2.3.3.1. Explanatory introduction

Surrounded by the picturesque landscape, at the top of a series of deep valleys, the citadel of Saladin floats at a height of 450 meters, on a long rocky edge stretching from east to west, divided into two highlands separated by a series of hills, and surrounded by the dense slopes of the Ansaryia mountain (Joudallah, 1999).

The citadel of Salah Al-Din is considered one of the most famous Islamic architectural sites, represents a unique cultural heritage for the quality of its military architecture, the diversity and quality of materials used in the construction, and the complexity of its historical divisions as well as the surrounding environment (AKTC, 2007).

The structure of the castle is the result of many stages of construction, it is still possible to distinguish between different architectural structures that dates back to different periods of time. Including two gates and the remains of a church in the western part of

the site, that form the core of a primitive settlement dating back to the early Byzantine period. The site was also occupied during the Middle Ages to protect the road from Afamia in the south to Latakia on the coast (Joudallah, 1999).

It was registered as a World Heritage Site (along with the Crac des Chevaliers) in 2006 and it is considered one of the most visited tourist places in Syria, where in 2008 the number of visitors reached about 100,000 visitors.

The castle was inhabited by Byzantine, until the arrival of the Crusaders in 1108, by 1119, the castle became the property of Robert Saone, a Crusader knight of a French origin. During this period of Crusader control, the castle's massive defenses were built in its current form and it was one of the largest defensive Crusader castles, after the 12th-century Crac des Chevaliers (Joudallah, 1999).

In 1188, Salah Al-Din and his army attacked the castle, and due the lack of manpower that can defend the vast area of the castle, the castle quickly fell under the control of the armies of Salah Al-Din. The castle was later named after his name “Castle of Salah Al-Din”. The new occupiers of the castle carried out many fortifications, such as "the palace complex" was the most important achievement in the Arab era, which dates back to the early period Ayubi, Also the buildings were developed in the subsequent Mamluk period, post-1272 (Grandin, 2008).

The palace complex consists of a mosque with a minaret and a long corridor turns into a vaulted room, and a traditional bath. This was the congregation of buildings in the heart of the castle, which formed the core of the conservation project, which was carried out by HCSP of the AKTC, in coordination with DGAM (Culture, 2001).

1st of December, 1999, The Aga Khan Trust for Culture (AKTC) has signed a memorandum of understanding with the Directorate General of Antiquities and Museums of Syria (DGAM) to support the restoration of three fortresses in Syria (Aleppo, Masyaf and Salah Al-Din) (Culture, 2001).

With the beginning of the project at the citadel of Salah Al-Din, a number of historically or spatially cohesive areas were selected inside the castle to become the centerpiece of restoration and preservation efforts. The choices made were the result of in-depth analysis of the history of the monument, its current structural state and the possibility of

its rehabilitation. The work has been developed according to the international standards and the methodology of restoration and rehabilitation, which was adopted internationally at the time (AKTC, 2007).

Salah Al-Din Castle is a very large complex with a series of buildings and monuments dating back to different historical periods, which require a diverse approach of restoration work and different forms of maintenance, targeting the specific requirements for each structural building according to its nature, the period that it dates back to, its architectural style, and its current state (Culture, 2001).

Work began in 1999 with a detailed survey of the cases to be preserved in buildings. The main structures targeted by the conservation project were the trench, the obelisk in its center, the main gate of the castle, the walls, the main towers, the Byzantine fort and the walls, the Islamic complex, including the mosque, the palace and the public baths, as well as the lower city, the walls and gates of the two towers (Grandin, 2008).

The mission of the Historic Cities Program (HCP) was to conduct a detailed construction survey and analyzing the building materials and damage systems, a large number of documents were issued, numerous archaeological excavations and architectural analyzing of the maintenance and restoration of the castle remains in the Islamic era were made. Where the maintenance work focused on the Islamic complex, especially on the mosque and the traditional bath and the presidential palace (Grandin, 2008).

Although the Palace complex is a small part of the Castle as a whole, it is of great architectural and historical significance. Through continuous work and close cooperation with DGAM staff and local contractors, all measures have been taken to ensure that standards of maintenance practices and the appropriate restoration methodologies that was described in this project, will be applied at the site and at other sites.

Moreover, the castle remains the spot of archeological and historical research, where the archaeological excavations carried out by the DGAM in the palace led to a better understanding of the complex and was assisted by a multidisciplinary team of Syrian and international experts. The main areas of potential research interests were, first, an

area east of the Islamic Complex, the Byzantine wall that is partly under excavations and some important Ayyubid structures, since excavations in this area could be of great importance.

Second, the lower part of the castle, which was partly cleaned by DGAM, where the need for these excavations is evident, and its impact on the understanding of the entire lower city.

Third, the industrial sector in the castle, and the area north of the Byzantine castle, where there are some excavations that are necessary for a better understanding of the industrial and economic activities of the castle (Abdulkarim, 2016).

2.3.3.2. Restoration of the Ayyubid Mosque

Maintenance work began in the mosque, its minaret and the adjacent school in 2000.

Restoration work began at the mosque, starting with its minaret, which raised particular restoration problems. Where the earthquake destroyed the top of the minaret, resulting in partial collapse over time. Many unstable stones in the upper section were at the risk of falling.

The restoration team identified the location of each stone accurately, and then reconstructed the upper part of the minaret, using manufactured stones similar to the original stones of the minaret, in terms of shape and measurements, in addition to a few other stones that fell earlier, It was recovered from the ground (Grandin, 2008).

As for the mosque and the school, both buildings were structurally stable, but the successive stages of modern repairs using unsuitable restoration materials, caused a change and damage to the historical fabric. The best solution was to remove the modern interventions carefully. Then repairing the walls and ceilings and completing them using materials and techniques similar to those used by the original artisans of the Middle Ages, making the buildings intact without detracting from their historical character. The conservation process was successfully completed in autumn 2000 (AKTC, 2007).

2.3.3.3. The Ayyubid Palace

Work began on the preservation of the Ayyubid palace and the baths in 2001.

The palace contains an inner courtyard represents a reception area, with the remains of an octagonal fountain, there are a number of small private rooms overlooking this courtyard, on the other side there are the ruins of a traditional bath. Little remains of the main courtyard remain, while the private rooms retained their original structure (Culture, 2001).

In both the courtyard and the bath, excavation works with the project have uncovered the remains of an advanced water system of pottery pipes, which may have fed the Salsabil (an architectural element like a fountain, an aesthetic element that moisturizes the air), the octagonal fountain and the Hot and cold water systems in the bath. And a brick oven was discovered, it was responsible for raising the water temperature flowing under the bathroom floor (Culture, 2001).

The entrance to the palace is still largely intact, consisting of a square area, with two Iwans on its both sides, and a half-dome decorated with thin Muqarnas that were beautifully and precisely sculpted, offering a glimpse of the exceptional skill and engineering precision of the craftsmen who built it (Abdulkarim, 2016).

Conservation works on the palace, were preceded with a detailed archaeological survey of the palace ruins carried out by a team from the Sorbonne University in Paris. Their search led to a greater understanding of the divisions of the palace and the mechanism of using each part of it. Archaeologists at the site also found important pottery fragments from the 12th century that were displayed in the site's museum inside the castle (AKTC, 2007).

The task of conservation in the palace and the baths was not to restore, as they had been before, or to reconstruct previous virtual sections. But work was done carefully to maintain the stability of the palace remains as it was found, and some of its parts were rebuilt, only as required to achieve further structural stability.

The maintenance work included the careful removal of the cement mortar from the building joints and replacing it with lime mortar in most parts of the palace. At the

beginning of the restoration work, very few areas were found that still retain the original plaster layer, so they were carefully cleaned and, if necessary, fixed it to the wall, using plaster material injected behind them (Grandin, 2008).

In the 1930s, the French architect and archaeologist Michel Eckhardt carried out a major restoration process for the entrance to the palace. Although the methods of restoration used were quite different from today's less intrusive approaches, they were respected and considered an integral part of the historical fabric of the site (Grandin, 2008).

The entrance to the palace suffered from the effects of moisture, which leaks from the ground to the walls, and transported salt from the soil to the stone surfaces, which leads to the formation of thick sediments on the walls, these sediments composition contributes to the occurrence of decay in many blocks of the magnesian limestone. The situation was mitigated by a combination of remedial measures, Rainwater entry into the foundations of the walls was prevented through the application of the same insulation layer of the traditional copper-rich green clay mortar, which is used to insulate the floors and surfaces and was used in Masyaf Castle. The problem of high humidity in the flooring was solved as soon as the discharge of water within the floors was improved directed away from the foundations of the walls and prevented from deposition over the surfaces (AKTC, 2007).

After treatment of moisture that stimulates decay and damage, the stones were preserved, washed and the decay was removed from their surfaces. Harmful salts were removed from the stone surfaces through dissolving it by applying the poulticing process, where four poultices of lime were applied to the areas to be treated, left in place for four weeks, and after their removal, the results of the electrical examination readings showed that salt levels have been successfully reduced (AKTC, 2007).

Conservation work included repairs to the eroded stone surfaces by applying lime mortar to their surfaces, it is a process designed to mitigate the erosion process by filling the cavities of decay with lime and thus leaving the stone intact.

The remaining walls of the site were restored by treating the broken wall heads by covering them with mortar and stones, so that makes water poured to the sides, retaining the archaeological character of the wall. In addition to the removal of soil and grass,

which grows inside the wall, followed by filling the gaps in the wall body with limestone mortar and stones, similar to the filling inside the wall (Grandin, 2008).

2.3.3.4. Visitor Infrastructure

Salah al-Din Citadel is one of the most important tourist destinations in Syria. During 2000, it was visited by more than 50,000 visitors. In 2008, the number reached about 100,000 visitors (Jodidio, 2011). This number has steadily increased until 2011.

The Government's policy aimed at developing the tourism sector. Consequently, the maintenance project at the castle has improved the infrastructure of the site, improved the visitors' experience of the castle and protected the historic fabric of the castle from damage (Grandin, 2008).

Initially, there was no infrastructure in the site. Therefore, the work began with the installation of power cables and telephone lines at the entrance to the castle, and provided appropriate lighting in different areas of the castle, by DGAM. (Abdulkarim, 2016)

The tourist paths and induction signboards were implemented within the site, to determine the route of the visitors' tour, with full respect for the environmental terrain of the site, and with alerting visitors to stay away from the sensitive or dangerous parts of the monument. Visitors' centers were equipped with all it contains from historical information boards, in both the old mosque and the school building to illustrate the history of the site. One of the local residents has been supported to the modernization of the small cafeteria in the girls' tower, which welcomes visitors to the site. Sewage facilities were also installed outside the borders of the fortifications, and brochures and guidebooks were distributed to visitors at the reception center at Gate (Grandin, 2008).

The completion of the rehabilitation and restoration of the castle does not mean that conservation works have been completed. Quite the contrary, DGAM has faced a major challenge in maintaining the safety of the castle, which needs periodic maintenance for its different sections. Using the skills and methodologies developed and proven by joint conservation projects with AKTC. And drawing on local experiences of the local staff,

contractors and craftsmen, in which AKTC participated in their training, with the assistance of international and local experts, to teach them the methods and basics of documentation, conservation and restoration methodologies (Grandin, 2008).

2.3.4. Aleppo Citadel

2.3.4.1. Introduction

A large number of distinctive monuments dating back to different periods of time, characterize the historical fabric of the old city of Aleppo, which UNESCO has been encouraged to recognize as a world heritage site since 1986 (Gonnilla, 2006).

In the center of the World Heritage Site, Aleppo's historical citadel is located in the heart of the old city. The area around the castle was a heavy traffic congestion area, with a steady stream of vehicles blocking the access to and from the historic city, and the consequent degradation of the urban fabric of the city. Until HCP started an urban planning project around the area of the castle in 2006, in close cooperation with the Old Town Directorate and the German Agency for Technical Cooperation (GTZ). The planning project worked to significantly improve the infrastructure of the old city and the castle surroundings, develop the most convenient traffic management plans, design the landscape around the castle, and develop proposals for the reuse of the main historical structures in the Old City (AKTC, 2007).

In 2007, a memorandum of understanding was signed between Aleppo City Council and AKTC to establish a park on the edge of the Old City, in addition to a socio-economic project in the surrounding neighborhoods. Where the main objective was to make the Bab Qinnasrin Park an important gateway to the old city. Building on the efforts made in the touristic rehabilitation of the castle and its surroundings, the park will attract locals and tourists, providing new opportunities for employment and promoting improved services (Jodidio, 2011).

Although Aleppo is the economic capital of Syria and the second largest city in Syria, and receives more than four million tourists each year, tourism revenues have not led to relative welfare for the people living around the citadel. The areas in the eastern and southern part of the citadel were considered one of the most marginalized areas in Syria, where average per capita income in those areas was less than 1 US $ per day. This was due to several reasons, the most important of which was a general lack of employment opportunities, low levels of education, high school drop-out rates and poor housing in that area (Khirfan, 2016).

Three main areas of social and economic intervention were created in the adjacent neighborhoods of the future Bab Qinnasrin Park, with local needs explored through questionnaires and investigative surveys in the region (Culture, 2001). These development initiatives include working to increase levels of literacy among those over the age of 15, ensuring education for school dropouts, and providing medical services and working to permanently providing them. As well as the revitalizing cultural heritage, working to increase family income through vocational training, and encouraging handicrafts. In addition to providing microcredit loans, improving access to and upgrading of the open spaces, working to improve accommodation, and optimizing housing maintenance. The AKDN, of which AKTC is a branch, has a pioneering experience in all previous development areas (Jodidio, 2011).

The main objective of these development efforts in Aleppo is to strengthen the historical urban fabric, connect the poles of the ancient northern and southern city, and to give an important example of the potential of these projects to contribute prominently to the social and economic development of the Old City (Khirfan, 2016).

In addition, AKTC in Aleppo aimed to revive the old city and achieve the social and economic benefit for its inhabitants by the touristic rehabilitating of the citadel and providing the area with visitor centers and facilities. And to work on the possible reuse of historic baths and the old government building, in addition to the development and rehabilitation of public areas around the citadel. The establishment of a public park and the development initiatives in neighboring neighborhoods are part of the program. This initiative is based on the "Public-Private Partnership Framework", a partnership that was new to the country at the time (Jodidio, 2011).

2.3.4.2 Aleppo Citadel

The citadel of Aleppo rises in the center of the old city. It was built on a natural hill of limestone, 50 meters above the surrounding streets, and it is the result of many stages of construction and destruction, and the great historical changes in the region (Rahim , 2013).

Despite the repeated destruction of parts of the castle, it remains one of the most important monuments of Islamic architecture, and a central part of the historic city of Aleppo, which UNESCO recognized as a World Heritage Site in 1986 (Burns , 2016).

Aleppo Citadel is one of the great examples of military architecture in the Middle East. The discovery of the Temple of Storm God in the center of the castle contributed to providing evidence that human use of the hill began at least from the beginning of the third millennium BC (AKTC, 2007) (Figure:1).

To date, they are still able to identify a number of engineering changes that dates back to different periods of time, through a number of structural buildings different in their history and architectural style. But most of the remaining buildings of the Citadel are from Ayyubid and Mamluk periods. The building of the Citadel represents a unique cultural heritage for the quality of the architecture used in building its parts, the diversity and quality of materials used in construction, and the complexity and often overlapping of the different historical divisions within them (Gonnilla, 2006).

As mentioned earlier, most of what remained to this day, from the buildings of the Citadel was built by the Ayyubid rulers - the descendants of Salah Al-Din - who ruled the city in the twelfth and thirteenth centuries, after them the rulers of the Mamluks, who ruled Syria from the capital of their rule in Egypt, From the thirteenth to fifteenth centuries. In this period between the twelfth and the fifteenth centuries, the castle took its last architectural form, which it seems today (Rahim , 2013).

2.3.4.3. A brief overview of the work of the Citadel's project

1st of December, 1999, The Aga Khan Trust for Culture (AKTC) has signed a memorandum of understanding with the Directorate General of Antiquities and Museums of Syria (DGAM) to support the restoration of three castles in Syria (Aleppo, Masyaf and Salah Al-Din) (Culture, 2001). In 2000, AKTC's Historic Cities Support Program (HCSP) began projects in the governorate of Aleppo. The Aleppo Citadel is a very large complex, containing a series of buildings and monuments, with different historical features, requiring a diverse approach and different forms of maintenance and restoration, targeting the specific requirements of each structure or class of different structures. It was not possible to complete the work in a short period of time, to preserve the castle in its entirety, so a number of historically or spatially coherent areas within the site were selected to become the focus of preservation efforts, with the stated desire of DGAM to continue to work elsewhere, using the methodologies used and taking advantage of the acquired skills during the implementation of the joint project with AKTC (AKTC, 2007).

One of the challenges facing the maintenance works in the Citadel is that some of the selected areas are technically difficult to handle, requiring a high level of technical expertise, which is not usually available in Syria. Some parts of the citadel are of great historical and technical importance, and therefore require the latest techniques and methods of conservation, some of which suffer from a very poor structural condition, which threatens to destroy a large part of the monument and thus in urgent need of repair as a priority (Gonnella, 2008).

The main areas selected for primary maintenance were the Al-Ayyubid palace complex, the western part of the Castle Plateau, and the main curtain wall surrounding the site, including a number of attached towers and other structures. This task is primarily concerned with the protection of medieval monuments. The main objective of the HCSP was to develop several levels of intervention in terms of upgrading local staff, qualifying them to be able to maintain the building, in addition to the development of a real tourist structure in the Citadel and its surroundings and intervention instead of the local Directorate of Antiquities, when foreign expertise is needed (Khirfan, 2016).

AKTC started a restoration project, which includes preservation of the remaining elements. Part of the maintenance work in these areas was funded by the World Monuments Fund through the Robert Wilson grant for Challenge. Additional resources have been invested to upgrade and improve the visitors' infrastructure through the site. These interventions have been completed over the years, through AKTC training for archaeologists, engineers, contractors and local craftsmen, on modern conservation techniques (AKTC, 2007).

Three main areas of the implementation of the restoration project were developed by AKTC, from 2000 to 2008. After completion of the master plan in 2000. The Foundation developed the visitors' infrastructure, including the establishment of visitor centers, improving of the ticket offices, the organization of tourist paths, points of Rest and views, installation of signboards, improvement of sanitation services, brochures and manuals design. Through this initiative, the Aleppo Citadel, in addition to the Masyaf and Salah Al-Din Citadel, was one of the first tourist heritage sites in Syria that provided visitors with a comprehensive and unique tourist visit (Jodidio, 2011).

AKTC has provided its accumulated experience in many previous sites, in the preservation of some highly sensitive buildings in the Aleppo Citadel, such as the Ayyubid reservoir, and the well next to it. Multidisciplinary teams have been involved in the maintenance of these two underground structures. Among these important works, restoration experts have conducted tests using high-tech technology, such as geo-radar analysis. The results of these analyzes contributed to giving restoration operators the opportunity to choose the most appropriate techniques for conservation (Gonnilla, 2006).

A great deal of work has been accomplished in Aleppo Citadel, through cooperation with the archaeological and local authorities. Following the international standards and the global methodology of restoration and rehabilitation. Most importantly, the interventions made were the result of a long and accurate analysis of the history of the monument, its current structural state, and its preservation state. Since the beginning of the work on the castle, detailed scientific studies were conducted, analysis of building materials and systems of damage and decay have been made (Gonnella, 2008). In the maintenance and restoration of buildings and structures, the reproduction of mirror

images for their state before destruction has been avoided as far as possible. Reconstruction of certain elements has not taken place, except in a limited and necessary manner.

2.3.4.4. Summary of project completion dates

In 2000, AKTC started working on one of the concrete wall towers. Between 2000 and 2008, the Trust conducted a large number of investigational surveys to obtain complete documentation on the site (Jodidio, 2011).

Between 2001 and 2004, the Trust carried out massive work in large sections of the walls, including restoration of the foundation, supporting important structural stability, and restoration of the North Tower.

The western part of the citadel was an important center for archaeological excavations and preservation of the Ottoman remains discovered between 2001 and 2002(Figure: 2).

Pilot projects were developed on some of the main canyons on the rocky slope of the Citadel between 2002 and 2003.

As for the Ayyubid palace, a great effort was made to preserve it, between 2002 and 2004, it is a large complex, with all it includes of housing and reception functions. During this work, the central part of the hall was restored from the main reception hall (Gonnella, 2008).

Between 2002 and 2006, the development of visitors' infrastructure was carried out. In 2005, the cladding stone of the castle ramp was reinforced.

The Trust team worked on the maintenance of the Ayyubid reservoir and the adjacent well between 2005 and 2007, their mission included structural reinforcement of the reservoir and some architectural interventions.

The gate of the Throne Hall, (Al-Arsh) was completely cleaned in 2007. This was followed by a major effort to develop and clean the site in 2008 (Jodidio, 2011).

The World Monuments Fund supported the work in the Ayyubid complex, and some interventions in the concrete wall, and participated in archaeological excavations in the area of the Storm God temple, the Ayyubid reservoir and the gate of the Throne Hall.

Trust ended its intervention with the completion of the project after it presented a plan to manage the DGAM's cultural site, the plan included a routine maintenance program for the structures, periodic inspections to ensure that all mechanical systems are working well, and periodic repair of building materials, which are subject to continuous corrosion (Jodidio, 2011).

The main problems related to the maintenance in the castle can be divided into two main categories: administrative and technical problems.

At that time many archaeological excavations were still ongoing inside the site, and the castle remained the subject of historical and archeological research for several years. Examples of such administrative and technical obstacles are the Storm God Temple (Shaw & Jameson, 1999), where the excavation work was completed, which was funded by AKTC and World Monuments Fund. It was necessary to consider the future use of the site, after the completion of the restoration work, to the beginning of the initial management phase of the site, and until it could be able to receive visitors. The solution was to conceive to create an archaeological museum showing the results of excavations, and many important elements that were found during excavations in the area of the temple, and this requires a constructing a ceiling for the temple area and needs great efforts and expertise to accomplish.

Another example of administrative technical obstacles is the eastern part of the Citadel, where it was still closed to visitors. It was proposed to reopen this large archaeological area, after the completion of the maintenance by DGAM to be ready for visitors later (Khirfan, 2016).

2.3.4.5. The Ayyubid Palace Complex

The most important historical periods that passed over the citadel of Aleppo was the one which the citadel was under Ayyubid rule, after Salah Al-Din occupied it in 1183 AD,

and then was succeeded (followed) by his son, Zaher Ghazi between 1186 and 1216. This was the period when northern Syria was an independent Ayyubid state, exerting all its efforts to take the control over a number of Syrian castles, extending from north to south, along the Syrian coast, including the fortress of Sahiun (now known as the Citadel of Salah Al-Din), to take them as centers of protection and advanced accommodation (Burns , 2016).

King Ghazi Palace is located to the east of the main axis, which runs along the summit of the castle. According to historical sources, the palace was burned during the night of the king's wedding in 1212. It was later reconstructed with the name of “palace of glory", many of whose features disappeared between 1260 and 1261, when the Mongols invaded Aleppo (Joudallah, 1999). Although the palace has become ruins, the rest of the historic structural fabric still enables to form an image of the original palace, which consists of a large courtyard, a central fountain, adjacent bathrooms, and a specially decorated gate corner.

The Elements of Persian architecture influenced the design of the Ayyubid construction in this period, were influenced by the Seljuks who seized power in Baghdad in 1055. One of the typical features of the magnificent Persian architecture is the central courtyard of the palace, which includes four Iwans, and the same in the palace of Salah Al-Din citadel (Gonnilla, 2006). This courtyard is a symmetrical focal point in the palace, and the Iwans surrounding it are vaulted areas on each side of the courtyard, open on its space and were used for sitting and providing shelter from the sun, and also contributes to cooling the surrounding air, side by side with a sophisticated fountain system, which includes "Salsabil", a waterfall sliding on a decorated marble slab with a certain slope (Petersen, 1996), located in the northern Iwan. The courtyard floor was covered with multicolored stone tiles with an octagonal fountain in the middle. From this central courtyard, the conservation work began in the Ayyubid palace.

2.3.4.6. Maintenance work

The first problem encountered by the restoration workers is the modern concrete mortar, which was used to fill the gaps between the stones in the repairs carried out in previous periods. This cement mortar is not only an abnormal and ugly landscape, but it does

cause a lot of damage in the long term, through salt infiltration through it. To solve this problem, cement mortar was removed (Figure: 3), and replaced with a new lime mortar (Gonnilla, 2006).

Modern stone repairs, which were carried out in the 1980s, were left in place, but in some places some alterations to the stone locations had to be made, using the Shahuta hammer, to correct the structural fabric and to maintain the homogeneity of the stones. The small Muqarnas vault, that covers the Salsabil, was documented and carefully dismantled and cleaned. One stone was removed from the group of stones that were severely damaged, and then replaced with a similar one (AKTC, 2007).

The second obstacle faced by those working on the restoration work in the castle, is to maintain the Pavement of the courtyard, it was lined with intricately decorated marble tiles(Figure: 4), but with the beginning of the restoration work, very few original parts were left, loosely placed in place, with a bad mortar within the ground. This Pavement is located in the heart of the palace complex, and visitors frequently pass over it. When reviewing photographs taken in the late 1980s for the pavement and comparing it to the pavement state at the beginning of the restoration work, a large amount of original material was found to have been lost in the past years. Corrosion in the pavement continued, where the remaining original pieces were uncovered and their edges were not supported therefore Corrosion was to continue (AKTC, 2007).

In this regard, DGAM made a decision at the beginning of the project to preserve the remaining parts of the pavement by reintegrating them into the original pavement. The process began by the removal of the thin layer of ground mortar, which had accumulated over time, over the surface of the previous floor, followed by a detailed survey aimed at determining the original pattern of the floor. Based on the remaining marble pieces, evidence from previous excavations in many places, from Aleppo and the Middle East, and after a long period of study and evaluation with DGAM, a solution was adopted that restructures the basic engineering network of the original pavement (AKTC, 2007). This solution is based on clear evidence, in the light of which the pavement is returned to a shape closest to its original state, based on accurate information.

In the second small courtyard, adjacent to the main courtyard, the restoration experts faced similar problems to the one they encountered during the maintenance of the main pavement. Where a few parts of the floor, which were covered with the original tiles, remained in place by filling the ground with a dilapidated mortar, the tiles were gradually collapsing, and the drainage in the area caused an additional problem, through the accumulation of rainwater above the ground. The objective was not to restore the original design of the floor, because this courtyard was less damaged, as it was separated from the main visitors' path and therefore not subjected to extreme corrosion such as the main courtyard. The main objective of the conservation process was to create a solid bed for the remaining tiles, giving it a slight slopes to better drainage of rainwater, with ensuring that the tiles arrangement was not changed, even if they were random, it was necessary to maintain the original arrangement, as it was before the preservation process (AKTC, 2007).

The process began with a detailed and precise survey of the floor, in a scale of 1:1, to document the precise location of each tile. After each piece was accurately identified, the larger pieces were individually surveyed, while the small pieces were fixed using a thin mesh, they were then taken out in groups, in a process similar to the uprooting of mosaic panels. Following that step, laying a thin layer of lime mortar on the floor, then giving it slight slopes. The tiles were then returned to their original places and lime mortar was injected into joints, another leveling layer was applied, it was carefully mixed to achieve the desired color and texture. Its function was to penetrate the stone joints to secure and protect it in place and to create a solid perimeter surface (Gonnella, 2008).

What distinguishes the Ayyubid buildings, are the entrances to their gates, which are vaulted with Muqarnas of an equisetic design, where the entrance gate in the Ayyubid palace complex is a landmark in the history of Islamic architecture that was built during the reign of Salah Al-Din's son Zaher-Ghazi in the late 12th century. Which is an outstanding prove of the skillful craftsmanship, and the opulence that characterizes Ayyubid palaces.

The design of the stones that decorated the facade of the entrance and the feature of successive colors of black basalt and white limestone is a typical feature of the Ayyubid

architecture of that period (Grandin, 2008). The ceiling of the entrance is half a dome, with four layers of Muqarnas. With its volumetric shape and absolute engineering precision in its design, the Muqarnas speaks of the sculptural imagination of the building craftsmen of those periods, their mastery in the use of building materials, and the design of elaborate stone details in the middle Ages.

To preserve this unique masterpiece, which is represented by the half-dome of the Muqarnas, it was necessary to meticulously and elaborately preserve the gate (Figure: 7), which was previously restored in the thirties of the last century. The conservation process has already begun with detailed documentation, an analysis of building materials and damage systems. Although the gate is structurally stable, but it has been damaged by earthquakes and has been further affected by rainwater leaks to its parts in addition to the effects of decay on its stone surfaces (AKTC, 2007). The main objective of the conservation work was to slow the decay process by making the gate more resistant to water leakage, as well as cleaning the stone surfaces and repairing them when necessary. In this regard, a new insulation cover has been placed on the exposed upper part of the gate (Figure: 8), using lead slabs as a moisture-proof layer.

Poultices of liquid lime mortar were used on the stone surfaces for washing it from sulfates, at the front of the entrance. Also, a number of stones were cleaned with water, using hand-held sprayers and brush.

The molten lead technique was used to stabilize the unstable rough stone pieces after they were dug into the walls and re-installed again. The surface crevices of the walls were carefully filled with lime mortar, which was gently mixed to match the stone texture, in terms of color and texture. Some of the falling stone was also re-glued, using a lime mortar (AKTC, 2007).

The meticulously carved Muqarnas stones presented special problems for conservation Process (Figure: 9). Where many of its curved surfaces, was mouldy and covered with black spots, consisted of dirt and sulphate. In addition, the bends between the stone pieces fragments in some places. The fractures were repaired and the large stones that were likely to fall in the future were fixed, using stainless steel screws, in addition to using hot molten lead in the installation. Fractures and gaps in small stones were filled with lime dust using syringes. In some places, the lime mortar was colored by adding

Sand pigments of lime to give homogenization to the stone texture of the wall, in terms of shape and color (Grandin, 2008).

The main reason for the erosion of the stone surfaces was the presence of a black, distorted and thick crust of sulphates, which prevented the passage of water vapor through the stone surfaces, and led to the deposition of mineral salts in the subsurface layer of stone. All this led to the collapse of the thin stone surfaces. The suitable solution in this case is the isolation of the stone surfaces, which would reduce the rate of deterioration, but this is not enough, there is still an urgent need to remove sulphates, and the accumulation of soluble salts. This has been achieved using aerosol mist spray on the stone surfaces, (Figure: 10) preceded by the poultice of the magnesium silicate mixture and the deionized water. An acceptable level from the reinforcement of the stone surfaces was obtained, using a frequent solution of calcium hydroxide solution (AKTC, 2007).

Conservation work was carried out in the Royal Bath adjacent to the main courtyard, which was rebuilt in the 1970s. Several other areas outside the Ayyubid palace were also preserved but they were a part of the palace complex. The conservation work of the Ayyubid arsenal in the southern region, which still bears the effects of the fire that burned the palace on the night of the wedding of al-Zaher-Ghazi in 1212 (Joudallah, 1999), and a museum was also equipped at the end of the project. The restoration project also included the maintenance of the adjacent al-Tawashi Palace, which was built as a servant's palace, which was of an important value as a part of the Ayyubid palace complex.

The unique Ayyubid reservoir (Figure: 11), located under the ground near the palace, is one of the important elements of the Ayyubid palace complex (AKTC, 2007).

The depth of the tank is more than nineteen meters, the length of the base is eighteen meters long, and the width is sixteen meters, it has four strong columns rising from the ground, to carry the vaulted ceiling. The reservoir is an impressive structure. The reservoir, in addition to the main entrance gate, are considered from the most important covered areas, which still exist from the Ayyubid period in the citadel (Gonnella, 2008).

The well, which is 46 meters high and located in the northern part of the citadel, in addition to the remains of the smaller Byzantine reservoir under the royal palace, with the Ayyubid reservoir represent the heart of a complex water supply system designed to provide potable water. It provides quantities of water capable of filling the needs of 2,000 soldiers and civilians during the periods of siege. It has a storage capacity of about 3.3 million liters, half the size of the reservoir is carved into the limestone on which the castle was built, and the rest is built of large blocks of limestone, the spaces between them are filled with the lime mortar to make them more resistant to water leakage (Gonnilla, 2006).

After conducting a number of in-depth engineering studies for the structure of the Ayyubid reservoir, engineers found that the four main columns that carry the vaulted ceiling of the tank, had serious structural defects, probably due to the intense movement caused by an earthquake. The main objective of the reservoir maintenance project was to stabilize and strengthen the four columns, with minimal intervention, and with minimal loss of historical building materials, so that no bad visual impact on space would be left. A detailed survey with an analysis of the state of columns and surrounding walls was carried out using the latest surveying techniques at that time, namely, geodetic surveying technology. The solution adopted by the engineers was to insert a large number of stainless steel screws, horizontally inside the columns and on alternating layers. This was considered the optimal solution, which has already achieved greater stability for the columns' structure (AKTC, 2007). Conservation work began in the spring of 2006, and by mid-2007, the entire restoration work at the Al-Ayyubi palace complex was completed (Jodidio, 2011).

2.3.4.7. The curtain walls and the Slope of the castle

One of the most important impressive elements of the defense architecture in the historic landscape of the Aleppo Citadel is its exterior curtain walls, which was built in the 12th century and rebuilt after parts of it were destroyed by the Mongol attacks between 1260 and 1401 (Gonnilla, 2006). Although the walls bear the traces of

destruction left behind by repeated bombardments and earthquakes, and in some places partially collapsed, but the wall and towers scattered along it remain high today.

The restoration interventions may not be noticed for the curtain walls, as are the restoration interventions in other parts of the castle, but this does not diminish from their importance in maintaining the site completely intact. There were numerous reasons for the destruction of the curtain walls, including those caused by the bombing in wars and the destruction caused by earthquakes, the most serious of which was the damage caused by sustained erosion caused by various damage factors (Culture, 2001).

The fractured wall heads and the partial collapse of parts of the wall stones, allow the rain to permeate the wall, which usually consists of an aggregate filling in the middle of it, and the effect of the water fine particles of the fill are slowly lost, this leads to structural instability of the wall. Moreover, the growth of random plants on stone surfaces, exacerbates the problem. In some cases, parts of the curtain wall have become structurally unstable (Gonnella, 2008).

The idea of restoring the entire curtain wall was not within the HCSP scheme, but the focus of the maintenance work was only on parts of it, with DGAM taking care of the maintenance of the remaining parts of the curtain wall, taking advantage of the restoration experience acquired in the previous sections (Culture, 2001). After a detailed survey of the curtain wall, the work began on cleaning the walls from dust accumulated.

over their surfaces, and removing vegetation that has grown on stone surfaces, and then began to remove cement mortar that were newly applied, between the stone joints and were replaced with more convenient lime mortar.

Following the previous step, injecting new mortar into the spaces inside the wall(Figure: 12), the wall heads were covered after cleaning them with a layer of stone with a slight slope to facilitate the water drainage, so that it doesn't allow water to be collected above the walls(Figures: 13,14,15). The missing stones from the wall were replaced, and the walls were filled with lime mortar. Some partially collapsed sections of the wall, in limited cases, have been rebuilt to provide structural stability. In some cases, unstable stones were installed in place using stainless steel screws (AKTC, 2007)(Figure: 16).

One of the most important aesthetic discoveries found in the citadel of Aleppo is an inscription found on the exterior face of the defensive tower in the north of the fortress, below the Ottoman barracks, it is a very important inscription which has been severely damaged (Gonnella, 2008), the one-meter inscribed strip, 17 meters long, is written with a cubic Kufic line decorated with black basalt stones. The inscription mentioned building the tower by the Mamluk Sultan "Qaitbay" in 1472/1473. It was difficult to reach the inscription for its height, the restorers had to use the seriously suspended boson's chair, and the inscription was treated very carefully. The stones that formed the inscription were cleaned, the ugly cement mortar, previously used for restoration, was removed, and the vegetation on which it was grown were removed. The next step was an accurate documentation of the stones of the inscription, then it was dismantled, and the spaces that were found behind them were filled. Then the stones were re-installed in their original location and the spaces were filled with plaster mortar (AKTC, 2007).

One of the problems encountered by the restorers in the maintenance of the curtain wall was that the foundations of some of the walls had been severely damaged by the flow of water next to their side. The solution was to improve the drainage system in the castle floor and to isolate the foundations of the wall, so as the water doesn't infiltrate into the inside (AKTC, 2007).

The responsible for the restoration process carried out lengthy structural studies on the problems facing the castle's slope. When examining erosion processes through the slope, specialists noted a clear correlation between erosion at the foot of the wall and the formation of deep grooves, below the slope. These grooves, constitute a serious and unstable condition. In this regard, an integrated pilot project was implemented, aimed at repairing the soil erosion below the towers, in addition to filling the headstones with limestone mortar, re-covering the exposed foundations and establishing a flat surface at the foot of the walls for a better distribution of rainwater(Figure: 17).

A number of experimental techniques have been made to fill the grooves which formed over many years, at the downhill surface of the castle. Due to the varying geological conditions across the downhill, different treatments methodologies have been developed accordingly. In the places where the grooves were formed in the downhill, a series of limestone stones of the downhill were cut, the unstable soil beneath it was removed and

filled with a special mortar from limestone and white cement. This process was repeated in several areas of the downhill, where a series of limestone stones were horizontally cut and removed from the bottom of the downhill, and replaced by another row of solid limestone, after providing it with lime mortar, to create a solid belt at the base of the downhill, that the rest of the stones of the downhill are based on it (AKTC, 2007).

2.3.4.8. West Castle Sector

In 2000, with the start of conservation work on the curtain wall of the citadel, the project managers faced a clear problem: the erratic drainage of rainwater, which had a catastrophic effect on the foundations of the wall, Where the rainwater was slipping and gathering at the base of the wall, and down the downhill, instead of heading to the sophisticated rainwater collecting system within the castle walls (AKTC, 2007).

Once the initial excavation-uncovering of flooring was made, in a section of the western part of the castle, a complex system of archaeological remains dating back to the last Ottoman period of the castle was discovered.

Once it was discovered, the restorers must take appropriate measures to protect them, as they cannot be left unprotected.

While working on the construction of the routes for visitor's tour, in the western part of the castle, other areas of the existing ruins were also uncovered, therefore Preservation of these discovered remains was considered an important part of the conservation program of the castle (Gonnilla, 2006).

Excavations in the western part of the castle uncovered various types of courtyard houses of different sizes (Figure: 2). these houses were often well preserved and sometimes contained multicolored tiled floors (Gonnilla, 2006). It was easy to identify the functions of those houses' sections, such as kitchens, bathrooms, and toilets. The presence of several layers of plaster on the walls indicated that these buildings, which were constantly being renovated during their periods of residence, were well preserved. Some houses were covered with wooden boards. Some of the remains of the nails, uncovered by the Syrian-German excavations, were found in some Ottoman houses, which may have been used to repair the wooden panels on the walls (Gonnella, 2008).

In the process of maintaining these archaeological remains, the project managers faced serious problems, as these remains maintained their cohesion while they were immersed in a stable environment inside the soil, but once they were uncovered and exposed to air, and consequently facing different surrounding circumstances, and exposed to damage elements, they were likely to be eroded and destroyed by the coming winter seasons, which could led to the destruction of the remains of the entire urban complex. To prevent this possibility from happening, the retaining walls, which resemble the site's topography prior to the excavations, which in some places were decorated and carved, were built to resemble archaeological excavations (Gonnella, 2008).

The old lime mortar inside the walls of each building was also replaced with limestone mortar, and the wall holes were filled with lime mortar to make it resistant to the frost and snow.

The wall paint that some of which were decorated with reddish veneer that requires precise treatments, have been preserved to prevent corrosion, they were attached to the stone substrate, using stainless steel pins or glass pins with lime dust, and filling the spaces behind them , and covering the broken upper edges, with a similar mixture.

The friable materials were also reinforced using repeated applications of calcium hydroxide. The houses' remains contained floors of the precise plaster, which will not survive if exposed to the damage factors, the only solution to protect the rest of them was to bury them after a detailed documentation.

Moreover, an identical floor has been placed on top of the ancient one, to maintain the interest of visitors, and to help them create a clear idea of the state of that region, over the previous historical periods (Gonnella, 2008).

2.3.4.9. The vicinity (neighbourhood) of Aleppo Castle

Aleppo Castle is a historic city center registered as a World Heritage Site.

Within the framework of the Rehabilitation Project of the Old City of Aleppo, an urban design study was implemented for the surrounding area of Aleppo castle, in cooperation with the Directorate of the Old City and GTZ.

In 2003, the Aleppo Governorate Council and the AKTC signed a protocol explains in details the objectives and conditions of this study. One of the main objectives of the project was to plan and control the spread of commercial functions in the old Aleppo area, in a manner that positively affects the economic and environmental structure of neighboring residential areas. It was also important to open up new opportunities for cultural development, through the reuse of existing historical buildings, and directing the tourism and business functions, in useful directions to certain areas, and to the Old City in general (Jodidio, 2011).

It is no longer possible to keep the random traffic situation that surrounds the Aleppo Citadel as it is, especially in such an exceptional location of the Old City. It was necessary to support the appropriate traffic management system to improve the function of the central commercial area established by the Old City markets. And to improve the traffic, through the creation of major public places as a cultural area that represents the entire city (AKTC, 2007).

The objectives of the citadel vicinity Planning Project included the redirecting the traffic in and around the area of the Citadel, including the improvement of pedestrian routes, public transport systems, and parking spaces,

as well as working to control over the future planning of the Old City, and the protection of the physical and historical environment in the vicinity of the Citadel, and to control over the spread of commercial functions, in ways that protect them from the risk of violating comfort, economy and environment in residential areas.

It also seeks to guide commercial development, in a more beneficial direction to the concerned regions, and the old city in general as a tourist activity, in addition to protecting the surrounding residential areas, especially form the pressure of business functions (Gonnella, 2008).

Moreover, adopting a plan for optimal use of land, thus enhancing tourism and cultural functions, and complement the rehabilitation efforts. With suggestions for the future use of both old, public and vacant buildings. Improving public places, elements of infrastructure, giving attention to landscapes, pavements, lighting, etc.

The Citadel, along with its surroundings, is one of the most famous cultural heritage sites in the Near East. It is located in the heart of the vibrant historical city and the traditional administrative center of the city, and it's a recreation area for residents and visitors, a cultural center for its international and national importance and an archaeological site of great importance for scientific research (Gonnella, 2008).

The vicinity of Aleppo Castle is a conglomerate of attractive historic buildings, and the new simple structures that create a unified facade, as the main building material used were limestone. Its open spaces were indiscriminate, poorly functions were assigned to some of them (Khirfan, 2016).

The most prominent open space in the vicinity of the castle was the southern region, specifically between the market entrance and the Yalboga bath. This area forms a pedestrian courtyard established within the project of the rehabilitation of the surroundings of the castle, and it represents an outlet for entertainment and enjoyment for the residents of the region, and for the population of the city as a whole. It has also become a tourist attraction area.

The correct concept of the general design, the details of surface treatment, urban furniture, and other basic elements of the pedestrian public space, was to create a distinct urban area that was essential to the success of the project (Gonnella, 2008). The traditional urban landscape, as a priority, and the legacy of continuity, was to be preserved, away from trying to create a false version of the historical landscape.

In the preparation of the urban design concept of the surroundings of the castle, the various negative factors that must be corrected were considered. In an attempt to create homogeneity in the use of the land surrounding the castle, the vicinity of the castle was divided into three different regions. The northern and eastern parts of the vicinity were designated as recreational areas for the population, living in high-density neighborhoods near the castle (AKTC, 2007).

The rehabilitation plan of the area provided that the northern and eastern part of the ditch, including the downhill leading to it, should be a green area providing access to

the lower part of the square, through the stairs in the north, and rows of seats in the east(Figure: 18).
The trees clusters that have been planted should provide some shade and protect the residential areas from dust. The southern part of the vicinity was intended to become the main component of the tourist attractions network in the Old City and the consequent provision of suitable tourism functions and services.

One of the creative ideas, which the rehabilitation project focused on, is to connect the castle with its surroundings, at the gate and the bridge leading to the castle, through a public square that is designed in a distinctive way. This new square is the main element of the concept of urban design as a whole, its mission is to be a cultural area, linking important historical monuments, archaeological sites, tourist facilities and commercial activities. With its symmetrical design around the entrance of the castle, this new public square will become a focal point of public life. The square was distinguished by the majestic presence of historical buildings, with different styles and sizes, such as the bridge that connects it with the castle, the Sultan School, the Khasrawiyah Mosque, and the Grand Serail (AKTC, 2007).
More beautiful and more elaborate, there are several rows of tall palm trees in front of the Sultan School and the Yalboga bath and a cluster of low trees in front of the Grand Serail, which gives an example of the harmony between architecture and space structure and helps to produce interesting views(Figure: 19).
The distinctive rotation between shaded plant areas and exposed mineral areas is itself an attractive rhythmic experience, helping to offer different types of recreational spaces.

The design of the main pedestrian paths, the pavement of the streets and the pedestrian areas, the stone seats and the long fence around the ditch, rotating in their design, between the black and white stone (Gonnella, 2008), symbolize the ancient architectural tradition of Aleppo, in the black and white rotation.
The historic buildings in the vicinity of the castle required restoration and maintenance. The best proposal for intervention was to reuse these historical buildings and open them to play a new cultural and touristic role.

Social and cultural facilities are vital to urban life. The proposals of the managers of the citadel rehabilitation project were to preserve these facilities and encourage the revitalization of the region by organizing concerts, lectures, art exhibitions and other cultural events(Figure: 20). At the same time, DGAM must improve the facades of buildings and restore historical monuments in the area around the castle.

2.3.4.10. Urban design of the castle surroundings

In the preliminary study that was developed to rehabilitate the surroundings of the citadel, those who are responsible of the project were interested in finding a contemporary design language that combines modern architecture with the details of traditional architecture and uses the same traditional building materials in the region. Indeed, this required architectural language has been translated into a contemporary style that is consistent with the historical architectural environment while at the same time clearly refers to modern intervention.

Urban furniture, such as benches and garbage containers, is designed from the same local limestone used in sidewalks and walls. Illumination systems, and information signs were also incorporated, in terms of the colors used, in this aesthetic concept. The selection of black basalt stone in sidewalks, white limestone, in the construction of urban furniture, was a good idea, to enhance long-term durability prospects, for all these elements (Gonnella, 2008).

The design of the long stone balustrades, which wrap around the ditch, refers to the monumental nature of the site. The color alternation between white limestone and black basalt stone, used in the design of the large balustrades, breaks the monotony of the view overlooking the ditch. It highlights certain parts of the castle and divides the surrounding areas, as well as points of access to the ditch, and contact areas with the Market.

Through its symmetrical shape, the balustrades provide an aesthetic unit for the diversity of public spaces around the castle and create a beautiful crown around this unique architectural gem.

2.3.4.11. Visitors' infrastructure

The development and implementation of a coherent strategy for visitors' infrastructure in the castle was a key aspect of the conservation program. After close consultation with DGAM, the visitor's tour through the castle was designed to connect the main interesting points within the site. The original stone-paved roads, after their maintenance, mostly dating to the Ayyubid period, were integrated into the tour plan (AKTC, 2007). In other sections of the site, new paths have been designed, with applying a new layer of the soil, to protect the original floor, from visitors' feet.

In a number of important points of the castle, the signboards were installed, they will receive the shade from the newly planted Melia trees. A series of observation points were built, which provide spectacular views of the surrounding historical city, one of which was built on the wall of the castle and another built above the Ottoman windmill on the curtain wall (AKTC, 2007).

The brochure was designed to explain the routes of the tour within the castle, identifying the important points in the site, with their names, and some historical information about them. The introductory signboards were also installed throughout the site (AKTC, 2007).

Interpreting the site's history to visitors is a major task of managing historical sites. In this context, visitor centers and site museums, which present in multiple ways a brief history of the site were built. In Aleppo Citadel, a new visitors' center was prepared in the Ottoman barracks on the northern edge of the site. It contained a small exhibition describing the history of the site and an interactive room. A cafeteria is adjacent to the visitors' center was prepared. In addition, the small museum in the citadel was renovated and transferred to the newly renovated Ayyubid arsenal and the nearby tower near the Ayyubid palace.

2.3.4.12. The implementation of the new visitors' facilities at the Aleppo Citadel

According to the AKTC's, Historic City Support Program (HCSP) philosophy, it is not logical that the preservation of historic sites and buildings be limited to the protection of their physical remains only, but that the old functions should be revived, or finding a new function for the building,

To preserve the monument alive, i.e. to make them meaningful to resident citizens, or to foreign visitors.

In the case of the three Syrian castles, which AKTC has worked on their preservation, their defensive function has become meaningless, and the best function that these castles can play is a function within the civil, cultural and educational spheres.

One of the social and educational goals for the reuse of historical buildings and particularly in Aleppo, its citadel is a subject of civil pride. And it is still a central point in the urban landscape. Where the views from and to the castle provide a sense of urban identity (Burns , 2016). Moreover, the spacious interior spaces, the hallway and some facilities such as the Throne Hall provide space for major public events.

Its cultural significance, both for residents and for tourists, is clear, since the remaining traces of Eastern civilizations, to Roman, Byzantine, and Islamic, constitute a huge treasure.

In addition to the educational potential of the castle which is equally clear, where the different historical layers on the site constitute a three-dimensional historical reference in the open air, giving the visitor a sense of the past, with much more concrete experience than reading about history in books (Khirfan, 2016).

Therefore, searching for ways to inform and educate about the importance of these sites, and to encourage visitors to visit the restored monuments, is a complementary task to the physical conservation.

In the case of Aleppo, this has been achieved through the design of the basic visitors' tour, with the accompanying facilities, which will perform three basic functions:

First, identify and connect the most important components and archaeological buildings, and give a detailed explanation of them.

Second, the selection and processing of important observation points, overlooking the surrounding historical city, to clarify the urban context of the castle.

Thirdly, the provision of comfort and social interaction areas, such as the Visitors Center, the outdoor cafeteria, as well as the provision of learning opportunities, through the creation of diverse and integrated educational exhibits and museums in individual buildings.

To improve visitors' experience at the site, appropriate identification tools are needed, integrating visual facts with contextual historical patterns.

This task is the main reason for the new visitors' center, which is located at the highest point in the citadel of Aleppo, where the exhibition panels provide basic information, which is explained more broadly in a guide that visitors can get for free.

A "moving" three-dimensional model of the castle is also displayed in the visitors' center, where the site is viewed from the bird's eye.

The establishment of this kind of visitor center, in addition to the cafeteria and the shaded outdoor entertainment areas, within the historical site, was a new practice in Syria at that time. Where the AKTC project in the rehabilitation of the castle, achieves a pioneering experience in this field.

2.3.4.13. Organizing the tours in the castle:

All tours through Aleppo Castle are connected to the single point of entry and exit in the Ayyubid entrance and the archaeological complex entrance, with the Mamluk throne room (Gonnilla, 2006), after crossing the bridge over the ditch, and the climb of the huge slopes of the complex entrance with its right angle, and then turn in different directions, to form a kind of sequence, eventually reaching the beginning of the castle hill at its lowest point, and this area is the beginning of the main spine, ascending within the inner castle, which connects directly between the complex entrance, the upper mosque, and the so-called "old barracks" on the top of the plateau, which now acts as a visitors' centre and cafeteria. To the sides of that spine, you can see a number of important sub sites such as the Byzantine Well, the Market, to the left the Ibrahim Mosque, and to the right the archaeological site of the Temple of the Storm God.

On the south side of the visitor center, there is a cafeteria and a landscaped park, visitors can rest and eat or drink (Figure: 21), under the shade of newly planted trees. The park is a wide terrace, visitors can oversee from the top of the entire castle site.
The modern runway is located at the down of the park(Figure: 22), which is sometimes used for concerts or public celebrations, and it is used by linking it to the new visitors' site (AKTC, 2007).
The visitors' center on its northern side is based on the curtain wall, which provides a magnificent view, on the other side of the old city of Aleppo.
The main route of the visitors' tour continues eastward along the northern walls, passing through the renovated and reused Ottoman windmill. Its roof, which is considered the highest point in the castle, is designed to provide visitors with panoramic views of the castle complex and its surroundings (AKTC, 2007).

The main tour is completed, bringing visitors to the Ayyubid Palace Complex, including the palace building, the Ayyubid reservoir, the Royal Bath and other annexations(Figure: 23). In one of the annexes to the palace, called Arsenal, a small museum was prepared to display various artifacts, as some of the ancient traditional weapons, as well as some stone inscriptions, metal tools, and pottery, is accompanied with some historical explanations.

On the main tour of the castle, the visitor arrives at a special exhibition about military defense techniques in one of the defensive towers near the castle gate. The visitor completes his tour through a high courtyard to the Mamluk Throne Hall, that has been beautifully restored, and it is located on top of the entrance of the grand gate of the castle (Gonnella, 2008). This complex part of the castle offers adventurous visitors the experience of a dangerous descent from the throne room down through the defensive rooms, using narrow, steep inner staircases that eventually reach to a hidden little door leading to the main gate of the castle.
The western sector of the tour enables the visitors from getting a unique view over the market area and the Great Umayyad Mosque, and parts of the old city within the fence. While the northern sector of the tour offers an impressive view, with views of the entire city, its modern extensions, and its surrounding landscape. All visitor facilities, such as

restaurants, entertainment areas, tourist information centers, toilets, archaeological archives, and magazines have been integrated into this part of the castle.

In the western part of the castle, large parts of the earth walls of the former residential patterns dating back to the Ottoman period were discovered (Figure: 2). It was interesting that the visitors' route included this important historical part (AKTC, 2007). After the restoration of the original pavement, new sections were added to the main route the tour, after its maintenance and preparations to receive tourists, without causing damage to the archaeological areas.

When designing the visitor's tour inside the castle (Figure: 24), a system of twenty-six focal areas of particular importance was adopted and highlighted using modern design vocabulary. In this context, an individual guide has been designed, it contains a map which helps the visitor to distinguish the different focal areas, such as views and major paths. These maps also show the important sections of the castle and how to reach them, where these maps use the numbering system, each number indicates a specific place in the castle, all sections of the castle are numbered to match the numbers in the guidebook. The focal areas also cover all archaeological sites and monuments associated with different historical periods, but the sequence of the tour between them does not necessarily reflect the historical chronology. In this regard, each section of the site is provided with an introductory information panel that helps visitors understand the history of the castle and its amazing complexity.

2.3.4.14. Museum in the arsenal of the Ayyubid palace

Arsenal is located in the annexation of the Ayyubid palace and can be reached through a small door, not far from the gate of the palace entrance, it is one of the main sights of the citadel. The building has many rooms, which have been easily converted into closed exhibition spaces, where visitors are looking for important information on topics related to the Ayyubids and the palace structure (Gonnilla, 2006).The Rooms overlooking the central courtyard, with two side hallways, creating a pleasant interaction, between interior and exterior spaces, consistent with the character of this fancy annexation.

In the first and second rooms, stone inscriptions found in the citadel are presented, as well as two panels explaining the political role of the Ayyubids in Syria, and the nature of the Ayyubid fortifications and palaces. The corridors between the two small rooms and the courtyard are used to display other Islamic inscriptions found in the castle, while a larger room near the entrance is reserved for an exhibition of arts and crafts from the Ayyubid and Mamluk periods (Gonnella, 2008).

The pieces in the exhibition are pieces made of ceramics and metal objects that were transferred from the former museum in the Ottoman barracks(Figure: 2), as well as pieces that were recently discovered during excavations, in the castle, in front of the Nuri bath. These pieces are displayed in four cabinets, with information on the Ayyubid and Mamluk rulers, as art sponsors (Gonnella, 2008).

As for the exhibition in The Mamluk Tower, it is located above the Ayyubid Palace, not far from the Ayyubid arsenal. It is accessible via a road along the eastern ring wall of the Citadel, through a gate leading to the multi-story tower, which is located east of the Grand Gate of the Citadel. This defensive tower was built during the Mamluk period, hiding the former entrance to the castle that is still visible from the inside, which became old after the construction of the new large complex entrance, by to the orders of Al Zaher-Ghazi.

An introductory signboards explains the design of this old entrance, and explains some information about the medieval war, and the design of this kind of hidden gates, as art and military science.

Inside this tower, medieval weapons, a large model of catapult, as well as cannons, spearhead, and a range of metal dishes, which are found in various places within the castle, are displayed in places close to the tower (AKTC, 2007).

2.3.4.15. Visitors' Center at Ibrahim Basha Barracks

The main visitors' center was built in the Ottoman barracks, as a part of the recreational area, along with the cafeteria and the southern terrace. The visitors' center overlooks the entire castle plateau and the nearby amphitheatre.

Visitors have open options, from sitting in the cafeteria, or visiting the visitors' center, or to find specific information in the form of booklets, brochures, and postcards. In the

western part of the terrace, the Melia trees were planted to provide shaded seating areas in the open air. The eastern part of the large terrace, is used like an open-air museum, where various pieces of stone are displayed, such as inscriptions, coffins and column heads that were previously scattered around the castle, and were collected to be exhibited in this place (AKTC, 2007).

In the north of the Ottoman barracks, there is another terrace, which occupies the upper part of the North Tower, and provides additional recreational space for visitors.

The exhibition in the visitors' center offers a general historical overview of the citadel of Aleppo, starting with prehistoric times, and to the Ottoman period, based on archaeological research and the remaining physical evidence. The exhibition also presents some information and photographs, which illustrate the topography of Aleppo, and the location of the citadel in its urban context.

Within the framework of a beautiful architectural design, the exhibition hall is connected with the visual simulation hall, which displays the three-dimensional designs of the castle. The hall is also used for organizing lectures, receptions and other cultural activities.

At the entrance to the barracks, a small three-dimensional model of the castle is displayed, as well as panels showing modern maintenance (AKTC, 2007).

The objects displayed in the visitors' center provide an overview of the various historical periods that the castle has undergone, through architectural remains such as the coffins, the Byzantine door, parts of columns and windows, and other stone objects. These pieces are displayed in chronological order along the walls, while a number of column heads are located in the side corridors of the exhibition hall. These diverse column heads mounted on simple metal columns give an impression of the variety of columns used in the past.

The modern furniture of the museum, the cafeteria and the information office, were designed from gray steel, along with wood, these materials fit with the limestone structure of the walls and floors, and the wooden beams of the roof, creating a harmonious texture. The arrangement of the metal columns that carry the stone crowns

also focuses on the rhythm of the building arches, which are also reflected by the outer lapidarium blocks, where the remaining crowns are displayed(Figure: 25).

2.3.4.16. Bab Qinnasrin Park Project

After the participation of the Aga Khan Trust for Culture (AKTC) in the preservation of three historic fortresses in Syria during the period 1999-2005, including Aleppo Castle, and the redesign of the surrounding urban areas, the Project of the Bab Qinnasrin Park was put forward by Syrian government representatives and the (AKTC) (AKTC, 2007).

In addition to Bab Qinnasrin, one of the gates of the old city of Aleppo, and outside the fence, a 17-hectare plot of strategic location, was proposed for the establishment of the park, which was named by the same name of the nearby archaeological door "Qinnasrin Gate,"

The park land is located 100 meters from the Umayyad mosque, and the traditional market, and only 40 meters from the citadel of Aleppo.

The Syrian government has put forward a proposal to develop the site into a public park, after visiting senior officials to Egypt and to see Al-Azhar Park in Cairo. The Syrian government's choice did not come from futility, but from a similarity between the previous situation in Cairo and the current situation at Bab Qinnasrin. In both cases, the two sites were marginalized urban land outside the walls of the historic city walls, adjacent to the poor communities, which suffer from economic and social challenges. Both sites have large lands of poor soil (AKTC, 2007).

The great success achieved by AKTC in its meticulous completion of Al Azhar Park has made the Syrian authorities keen to apply similar methods to those used in Cairo to rehabilitate this deprived central location. In this context, the headquarters of AKTC in Cairo was assigned to design the park's master plan, drawing on the best designers and landscape engineers who had previously worked in Al-Azhar Park.

As part of the planning of the project, the project encountered several obstacles, on top of which was a financial problem to finance the project, in addition to another obstacle

in the western edge of the site, where the construction in this area was random (Jodidio, 2011), and the buildings were of different heights, damaging the cultural landscape of the area, so the work began with moving the population to other residential areas,most of the random buildings were demolished. The architects of the garden should also take into account the existence of a mosque and a small cemetery in the northwest corner of the site, and finding suitable solutions for them. In addition, there is a cave between the northern and southern regions, within the limestone layer, under the site.

The rise in the central part of the site will provide a unique view towards the castle and the gate of the old city. The gradualization work that will be applied on the site will also provide spaces of cultivated areas, facilities, and pedestrian paths. It will also offer interesting views, around the city and its walls. The garden design consists of two main areas, with distinct design themes.

The first area is the northern part of the site, next to the Qinnasrin Gate, consisting of a series of patios and retail stores, arranged on both sides of a large park, interspersed with basins and fountains, surrounded by trees. The designers have ensured that the region is well equipped to accommodate large numbers of strollers and to provide retail stores, various food, and beverages stores. The park will also generate money to finance its ongoing work by equipping paid parking spaces to the north of the main park area (Jodidio, 2011).

The second and larger garden area is located in the sloping areas of the site, mainly designed to provide recreational areas along the curved paths and terraces. Among the design plans for the park, the elevated area south of the park will contain a small lake, a children's playground, a coffee shop and a restaurant with indoor and outdoor seating for residents and tourists.

The organizers of the park paid lengthy discussions and careful planning, in partnership with the Aleppo Governorate Council, regarding the establishment of a suitable future management system for the park, which will oversee the quality of the work and construction of the completed designs.

The Trust and Aleppo Governorate have signed a Memorandum of Understanding, which provides for the design and construction of the park. The Trust will then manage

it for a period of time, allowing for the introduction of the optimal management system and its application to benefit the park users from the old city of Aleppo and neighboring communities (Jodidio, 2011).

AKTC's work in Aleppo was not limited to the planning and design of the garden, but it worked closely with the authorities in Aleppo to develop a series of proposals aimed at enhancing the quality of life in neighboring communities.

The relevant teams working with AKTC carried out a basic social and economic survey to assess the current quality of life in that time, for better identification of the highest priority needs of the local community. In light of this, a community office has been established (AKTC, 2007).

2.3.4.17. Discussion

This research carried out in-depth study of the former experience of the AKTC in Syria in the rehabilitation of three Islamic castles (Musayaf castle, Salah Al-Din castle, Aleppo castle) and focused on the experience of rehabilitating the Aleppo Citadel and its historical surroundings as the richest and most comprehensive example of all aspects of touristic rehabilitation for archaeological sites. This experience was very important and was carried out in coordination and joint cooperation between AKTC and the Syrian government side through its various agencies, the most important of which is the DGAM, which lasted between 2000 and 2008. It can be clearly noted that this important experience, since its beginning with the Signature of the joint cooperation agreement between AKTC and the Syrian side in 1999, and until the end of the rehabilitation process in 2008, have gone through an organized series of successive and integrated stages of work until the project was completed, and became a study example and an important model that can be used, including both advantages and disadvantages.

With the beginning of the work of the AKTC on the rehabilitation of Aleppo castle and its historical surroundings, the working groups under the supervision of the AKTC, including specialists in all fields, and in cooperation with DGAM, collected all historical information about the site and conducted archaeological and topographical surveys for the entire parts of the castle and its surroundings, in order to understand the

structural, historical and archaeological nature of the site, its place in the broader landscape, and the factors that led to its current state at that time. In addition, an in-depth analytical study was conducted to understand each problem the site was exposed to in order to develop a preliminary understanding, which precedes any corrective action. And then determine the conservation requirements and issue recommendations the necessary administrative activities leading to the required reforms.

In cooperation with DGAM, AKTC has worked on issuing a comprehensive database of the historical site of the Aleppo Citadel and the Old City, which includes all archaeological and historical studies on the site, and the findings of the excavations, the previous and modern maintenance and restoration works that have been done in each citadel parts. The database was updated periodically to document any additional procedure was taken at the site, which gave a more comprehensive understanding of the site and the changes that occurred there, as rehabilitation progressed.

With the beginning of the maintenance and restoration project, AKTC carefully chose in cooperation with DGAM the most important historical features within the castle and its surroundings that needed maintenance and rehabilitation, after it decided that focusing on these parts was a priority for the completion of the rehabilitation project to the fullest. Therefore, in the beginning the focus was on (The Ayyubid palace complex - the curtain walls - the castle slope - the western sector of the castle - the vicinity of the castle), as these parts carry important values in terms of architecture, aesthetic, political and historical, and in total important tourism value. The project guaranteed also to carry out repairs and maintenance without adversely affecting the heritage value of the site. In addition to the availability of a great deal of information, and accurate data on those historical parts, which in turn helped in the success of the maintenance and rehabilitation.

The restoration and maintenance work in the citadel focused on putting an end to the damage to the structure of the castle parts, which led to the gradual decay and destruction of some of its parts over time. Traditional maintenance methods have been used, and in some cases, operators have been forced to invent new maintenance methods that are appropriate for each particular case of damage. An important example of this situation is that when the restoration specialist was unable to isolate roofs and

floors using modern insulation materials, they conducted several important studies in this regard and discovered the traditional method used by the medieval inhabitants to isolate the surfaces using a local mud, Mixed with a certain mixture of other materials. This mixture was re-used in surface insulation in the modern maintenance project in (Musyiaf-Salah El-Din-Aleppo). And already proved its effectiveness in isolation. The conservation and rehabilitation work in the citadel and its vicinity was characterized by respecting the historical and artistic value of the heritage building, while taking care of all the different architectural styles, dating back to the successive historical ages that the site had without neglecting any of them. The maintenance and rehabilitation work has also focused on highlighting the aesthetic and historical character of the Citadel within the Old City by eliminating all visual contaminating violations and environment polluting industries in the historic area surrounding the Citadel.

The rehabilitation work, carried out by AKTC in collaboration with DGAM, focused on improving the infrastructure, both inside and outside the castle, where the castle had previously suffered from weakness in the (water, electricity, sanitation, etc.) networks. So it was a must for the rehabilitation project to focus on this point as an important priority. The next step was to improve public facilities, which the castle lacked at that time, the rehabilitation project improved these facilities, inside and around the castle, from (toilets, rest areas, cafeteria, bus garage, etc.).

The restoration work within the castle followed all the necessary procedures to ensure the security and safety of visitors, especially after the maintenance of the most important parts, which were exposed to destruction in the castle, so that visitors can move freely within the castle, without fearing for their safety.

The safety and security of visitors was not the only objective of the rehabilitation project, but the main objective of the project was to ensure the comfort and entertainment of the visitors of the site, as several a number of places were equipped for visitors inside the castle (the Ayyubid Museum of Art, the Ibrahim Pasha barracks and the cafeteria attached to it) The rehabilitation project worked on designing a number of high points within the castle, to be the place where the visitors can observe the entire castle and the surrounding old city. These points are designed on (The western wall and on the Ottoman windmill). In addition, the rehabilitation project within the Citadel has

ensured that visitors can move easily within the castle by designing a safe, smooth path that enables visitors to reach all parts of the inner castle. The tour operators designed a convenient tour for visitors that guide them about how to move within the castle and accessing the places of visit, museum, views points, cafeteria, and important archaeological sites, as well as the places of entry and exit.

In the project of rehabilitating the surroundings of the citadel, those who are responsible for the works gave attention to the application of contemporary designs, integrating modern architecture and traditional architecture, uses the same traditional building materials in the region. These designs were applied in a contemporary style consistent with the historical architectural environment, while at the same time clearly referring to modern intervention. Where urban furniture such as benches and garbage containers, was designed from the same local limestone used in pavements and walls. Also lighting systems, and information signs, were also incorporated, in terms of colors used, in this consistent concept. Also the selection of black basalt stone in pavements and white limestone in the construction of urban furniture was a good idea to enhance long-term durability prospects for all these elements. All the service additions, facilities and entertainment elements added, inside and around the castle, have an elegant design, similar to the archeological style of the site, which did not encroach the value and originality of the site, but added to it greater aesthetic value.

AKTC sought understanding with DGAM to rehabilitate the historical buildings inside the castle and the buildings within its historical surroundings, to reuse them in new functions that respect the historical character of these buildings, maintain their safety and maintain their optimal use, the rehabilitation project within the castle worked on rehabilitating the ottoman barracks, to perform the function of exhibition and visitor centre. The Ayyubid arsenal has been rehabilitated to become a small museum (site museum), displaying various antiquities and some ancient traditional weapons. One of the defensive towers, near the castle gate, has been upgraded to a special exhibition on military defence techniques. In the vicinity of the castle, AKTC, after agreement with the Ministry of Culture and the Aleppo City Council, has rehabilitated the Grand Serail building, becoming a heritage hotel that welcomes visitors to the historic area.

The AKTC in Aleppo has not only rehabilitated the castle and the surrounding area, but has worked closely with the authorities in Aleppo to develop a series of proposals aimed to enhance the quality of life in neighboring communities. The competent teams working with AKTC carried out social and economic surveys to assess current quality indicators and identify the highest priority needs of the community. In light of this, a community office was established dedicated for that.

The aim of the rehabilitation project in the historic surroundings of the castle was to upgrade that area and thus raise the standard of living of its inhabitants from the local population that most of whom were from the poor strata. After several years after the rehabilitation of the castle and the surrounding area, the improvement of the living conditions of the local population who have benefited directly or indirectly from the improvement of the services' reality of their area, has become clear. As a part of its rehabilitation project, AKTC focused on involving the local population in the construction, restoration and maintenance of the castle and its vicinity.

In this context, it conducted training courses conducted by local and international experts in the field of maintenance and restoration to train a large group of craftsmen who at the end of these courses gained special experience in the field of restoration of historical sites, and were subsequently given good jobs after that. What AKTC has done has been a pioneering experience in engaging the local community in most of its work, creating a sense among the locals that they are key partners in the accomplishing the rehabilitation works in their old city, raising their awareness and sense of responsibility for the need to preserve the historical heritage of the city. The involvement of the local population in the restoration work has created many opportunities for them. Also, the touristic revitalization of the area had a significant positive impact on the local population, who have worked in tourism services (restaurants, hotels, traditional shops, etc.).

As the AKTC began to develop the studies and plans of the Bab Qansrin Park, the project encountered a real obstacle at the western edge of the site. The residential buildings in this area were random and with different heights, damaging the cultural landscape of the area. AKTC, in cooperation with the Aleppo City Council, moved residents from these slums to other, more quality housing, and demolished most of the

squatter buildings after providing generous compensations to the demolished houses' owners. This experience is similar to the previous experience of the AKTC in the rehabilitation of Masyaf Castle. AKTC, in cooperation with the City Council of Masyaf, also demolished the squatter houses that surrounded the castle, obscured its vision and provided generous financial compensation to the owners of the demolished houses, and moved them to higher quality houses. These actions by the AKTC, was an expression of its aim to improve the residential reality, for the local population surrounding the archaeological site, as well as preserving the archaeological site and showing its beauty.

2.3.4.18. Cons of this experience

When discussing the negatives of the AKTC experience in rehabilitating the Aleppo Citadel and its historical surroundings, it is important to note that all the work carried out within the rehabilitation project was the result of joint efforts, and coordination and cooperation between the Syrian side represented by the (City Council Aleppo, Ministry of Culture represented by DGAM, Ministry of Tourism) on one hand, and the AKTC team in Syria on the other. This leads us to believe that the responsibility for the success of the project in achieving its objectives and the failure to achieve some of the goals is a shared responsibility of all the parties involved in the project, and the pros or cons cannot be limited to a specific party. We can refer to the common positives and negatives of the experience in general and can illuminate some of the obstacles encountered by the project, which directly or indirectly caused some of its objectives to fail.

One of the main obstacles to the maintenance and rehabilitation project carried out by AKTC in Aleppo castle is the opposition to archaeological excavations carried out by the national and foreign exploration missions, in cooperation with DGAM, with the maintenance and restoration work carried out by AKTC. This has caused obvious problems in the workflow mechanism and slowed down the implementation of the project (AKTC, 2007). As it was difficult to carry out the fast-paced restoration and maintenance works in the same place where archaeological excavations are ongoing, which are often slow. It was obvious that the maintenance and rehabilitation project

should wait till the completion of the excavation work, the detection of the damaged monumental structure, evaluating its condition and documenting it, so that the work could start on the necessary maintenance and restoration work.

The quality of the maintenance and rehabilitation project of an archaeological site is directly related to the accuracy of the work carried out and the speed of the project in achieving its objectives. However, the opposition of the project with archaeological excavations in the same area sometimes led to the slow pace of the project and the need for even longer time to achieve its objectives. This problem was repeated in several places. The first was the western part of the citadel, where it was an important center for archaeological excavations between 2001 and 2002. Where a complex system of archaeological remains was discovered, revealing large sections of the walls and floors of former residential patterns dating back to the Ottoman period. It was necessary for those who carried out the rehabilitation project to take appropriate measures to protect these archaeological remains and to implement the maintenance works in addition to taking additional measures that were not taken into consideration to add this archaeological area to the visitors' tour. All of these additional actions have delayed the project from achieving its objectives, within the time plan, which was prepared in advance.

The same problem was encountered by AKTC when it completed the rehabilitation project of Masyaf Castle, where the work of the project was parallel with the archaeological excavations carried out in several places of the castle and it was difficult to make a decision to stop one in favor of the other. Because of the difficulty of parallel work of reconstruction with the sensitive archeological excavation at the same time. One of the best examples of those obstacles, when the Islamic archaeological bath was discovered, next to the old staircase, which reaches the gate of the castle. After the completion of the excavation of the bath, it was necessary to take quick actions to protect it from damage and collapse, such as completing the missing parts of the bath, and the restoration of its newly exposed parts, as soon as possible, which prevented the archaeological specialists from doing research and studies, and collecting adequate archeological information for the bathroom. The restoration works was also opposed to archaeological excavations in other parts of the citadel, where the work of the rehabilitation of the castle was required to remove the ancient rubble that obstructed the

movement within the sections of the castle. The removal of this rubble was part of a rapid mechanism of action that contradicted with the desire of the archaeologists, in the detection of what that rubble may contain, of important archaeological remains (AKTC, 2007).

The opposition between the work of the maintenance and rehabilitation project, and the work of archaeological excavations, has always been an obstacle to the experience of AKTC in the rehabilitation of the castle and its surroundings, which led to the interruption of work in some cases, temporarily or permanently, or the work continued at the expense of hiding some of the monuments, in both cases, this is one of the main drawbacks, which faced the AKTC experience.

- As mentioned previously in the 2nd Chapter of Part One, the success of the touristic rehabilitation projects for the archaeological sites depends on its ability to attract as many visitors as possible to the site by organizing a professional media campaign which works on the marketing of the archaeological site that has been rehabilitated. As long as the media campaign is successful and widespread, it has the ability to convince the recipient of the importance of the site and it uniqueness, and therefore making him visit the site, the number of visitors to the archaeological site will increase, and thus achieve the desired benefit of the rehabilitation of the tourist site.

In parallel with the touristic rehabilitation of the Aleppo Citadel and its surroundings, AKTC worked through its various agencies, its website, and associated research centers to introduce the work done at Aleppo Castle, as well as the Masyaf and Saladin citadels. But the announcing way of those castles was simply a summary of the works that were completed, and some scientific and historical data, and did not promoted a marketing campaign for those castles, where this was not its objective originally. On the other hand, the Syrian Ministry of Tourism, in cooperation with the Ministry of Culture, represented by DGAM, organized a large-scale media campaign to promote the three recently-rehabilitated archaeological Islamic castles (Aleppo-Masyaf- Salah ad-Din), this campaign on the local and Arab scale was fairly successful. But did not reach the minimum goal required at the global level, where the campaign didn't have that professionality and spread, that enables it from reaching the foreign audience and convince him to visit those sites.

The following is a table showing the statistics conducted, showing the number of visitors to Aleppo castle, from local visitors, and Arab and foreign tourists between 2006 and 2011 (Khirfan, 2016).

year	The Local visitors	The Foreign tourists	The Arab tourists
2006	360.000	34886	34794
2007	286000	27714	27000
2009	72000	3425	5040
2010	123600	15682	8652
2011	173.000	20.000	9.000

The number of visitors to Aleppo castle between 2006 and the end of the rehabilitation project, and until the beginning of the Syrian crisis, shows that the demand of local visitors, and Arab and foreign tourists, began in large numbers in 2006, which is normal because it was the year in which the castle was opened to visitors, It decreased in subsequent years, but gradually returned to a steady rise, until 2011 with the beginning of the Syrian crisis. A simple study of the number of visitors to the citadel of Aleppo in the last 5 years preceding the Syrian crisis shows that the number of foreign and Arab tourists began to increase from one year to the next, but this increase remained modest compared to the number of local visitors to the citadel. From the above we can conclude that the media campaign, which was followed for the marketing of the rehabilitated castles at that time (Aleppo- Masyaf - Salah ad-Din), was fairly good at attracting local visitors, but it had clear weakness in its ability to attract the Arab and foreign tourists, according to the desired form, and this is what formed the second negative factor, which faced the joint experience between the AKTC and the Syrian side, in the touristic rehabilitation of the three Islamic castles in (Aleppo- Masyaf - Salah ad-Din.).

2.3.5. Conclusion of the case study

1st of December, 1999, The Aga Khan Foundation for Culture (AKTC) signed a memorandum of understanding with the General Directorate of Antiquities and Museums of Syria (DGAM), aimed at reviving three Islamic castles in Syria (Aleppo castle, Masyaf castle and Salah Al-Din castle). In 2000, AKTC's Historic Cities Support Program (HCSP) began projects to preserve the three castles and their historic surroundings. Each of these three castles consisted of a huge complex containing a series of buildings and spaces with different historical features that required a diverse approach and different forms of maintenance and restoration, which targeted the specific requirements of each structure or group of structures. It was difficult to complete the work in a short period of time to preserve the entire three castles, so AKTC chose a number of historically or spatially cohesive areas, within those sites, to become the focus of preservation efforts, with the expressed willingness of DGAM to continue to work elsewhere using procedures followed in that experience, and benefited from the acquired skills during the implementation of the joint project with AKTC (AKTC, 2007).

Work has proceeded in each of the three castles, according to international standards, and appropriate conservation and rehabilitation methodologies. The selection of the sites to be restored in each castle, was the result of in-depth analysis of the history of the monument and its structural and construction state that time. The required archaeological and engineering surveys were carried out, with the analysis of old building materials and damage factors it was exposed to.

The main goal of the HCSP through the rehabilitation project of the three castles was to develop several levels of intervention, both technical and human, by qualifying calibers of local staff and craftsmen by training them on restoration and conservation techniques and preparing them to be able to deal with and preserve archaeological buildings. In addition to the development of a real tourist structure, in each of the three castles and their historical surroundings, intervening instead of the local directorates of monuments,

when there is a need for foreign expertise. AKTC started a maintenance and restoration project, which includes preservation of the remaining architectural elements, in the three castles. Part of the maintenance work was funded by the World Monuments Fund through the Robert Wilson grant for Challenge (AKTC, 2007). Additional resources have been invested in the touristic rehabilitation for the castles, improving tourism services within them, and upgrade the visitors' infrastructure to give visitors a unique experience within these castles and their historic surroundings. These interventions were completed within 8 years, during which AKTC trained calibers of engineers, archaeologists, contractors and local craftsmen on modern preservation and restoration techniques and methods of dealing with archaeological sites.

Many obstacles and challenges faced the maintenance and restoration work, within the project of rehabilitation of the three castles, where some areas selected for the implementation of maintenance works, were difficult to deal with from a technical perspective, this requires high-level experiences, not owned by the Syrian side, while the AKTC calibers of experts in many disciplines, are able to deal with those obstacles. Some of the architectural parts have unique artistic value, fragile and delicate structure needed the most modern techniques and methods of preservation to deal with them. Some architectural parts suffered from a very poor structural condition, sometimes threatened with collapse. This threatened the safety of the site visitors and the archaeological structure of the castle, the repairing of those parts was a priority in the list of the work of the rehabilitation project.

One of the main steps that have been implemented in the three castles, within the rehabilitation and maintenance project, and before starting the tourist rehabilitation work, are:

- Remove a large quantity of accumulated debris, as a result of the collapses that occurred in the castle over time, those ruins were impeding the movement within the castle, and hide a lot of important archaeological remains beneath.

Work has been done to remove the previous interventions traces, from incorrect repair and maintenance works performed in diverse castle parts. These previous restorations were not only bad-looking, but were unprofessional, causing further damage to the archaeological structure of the site.

The removal of the ugly cement mortar, which has increased the damage to the archaeological structure from the stone joints in both the walls and ceilings, and it was replaced by a limestone mortar, which is more suitable for the archaeological style, in terms of shape and durability.

Many flat and vaulted ceilings, covering the spaces within the castle, were structurally weak and some were threatened with collapse. This posed a great threat to the safety of the archaeological building and thus a threat to the safety of visitors. The restoration work carried out in the three castles focused on supporting and strengthening these vulnerable roofs and reconstructing entire parts of them, when required.

One of the most serious obstacles encountered by the maintenance project is the leakage of rainwater through flat and vaulted surfaces, and the poor drainage of water through the floors, and penetration into the foundations of the walls, which was the main factor in the damage of both ceilings and floors, and foundations of walls. It was the source of the spread of moisture, which in turn led to the damage and flake of the old mortar. In each of the three castles, restoration work aimed at isolating exposed surfaces and floors to prevent water infiltration. The water drainage mechanisms were improved through the floors, so that the water is drainage regularly and away from the foundations of the walls, which become well isolated and protected.

- Walls in the various parts of the three castles suffered from cracks and partial collapse, and the infiltration of rainwater into the cracks, which led to the loss of internal filling in the walls, which in turn weakened the walls and threatened to collapse. Some of the walls also suffered from the loss of many of their original stones, damage and flake of the mortar covering them. The response of the restoration works came with the preservation of the top of the broken walls and the cracks in the body of the wall, filled with the appropriate limestone mortar. The missing stones were replaced with new stones that were identical to the original ones and were installed in their place, using suitable limestone mortar or using stainless steel screws when needed. The old mortar, between stone joints within the wall, has been renovated with lime mortar more resistant to damage factors.

Restoration works also faced another challenge which was the cleaning of stone surfaces and porous building materials, which is considered one of the most complex tasks, which required sophisticated restoration techniques, based on the use of a mixture of chemical solutions, to clean deposits containing sulphates and carbonates from Stone surface pores, limestone mortar between wall joints, and on the plaster inscriptions. A number of advanced technologies have been used to clean these sediments, using mist spray on the stone surfaces, preceded by the poultice of magnesium silicate mixture, and deionized water. Traditional cleaning methods were also used, using aerosol mist spray and manual brush.

The research focused on the AKTC project, in reviving the Aleppo Citadel and its surroundings, mainly as a case study, because it is the largest project, in comparison to the same project in the Masyaf and Salah El Din Castles, and because it is the most comprehensive and complete example of touristic rehabilitation projects for archaeological sites, that was well completed In Syria.

The areas selected for primary maintenance within Aleppo citadel were the Ayyubid palace complex, the western part of the Castle Plateau, and the main curtain wall surrounding the site, including a number of attached towers and other structures. This task was primarily focused on the protection of the monuments dating back to medieval ages.

Between 2000 and 2008, AKTC conducted a large number of investigational surveys to obtain get full documentation on the Aleppo Citadel and its historical surroundings in order to obtain a greater understanding of the site, and the most important interventions to be carried out by the Rehabilitation Project, and it aimed at the documentation of project work steps, and the most important changes that took place on the site, until the completion of the project.

In 2000, AKTC began to work on the maintenance of one of the curtain wall towers. This was followed by massive maintenance of large sections of the walls of the castle, including the restoration of its foundations, supporting the structural stability of these walls and the restoration of the northern tower. At that time, the western sector of the citadel was an important center for archeological excavations and the preservation of important residential remains dating back to the Ottoman period. AKTC staff has

developed pilot projects on some of the main canyons on the rocky slope of the castle in an attempt to find the best possible restoration solutions for the maintenance of the slope. At that time, great efforts were made to preserve the Ayyubid Palace, a large archaeological complex, with its housing and reception functions. During this work, the central part of the main reception hall was restored. The AKTC team then worked on the maintenance of the Ayyubid reservoir and the well next to it. Their task included structural reinforcement of the reservoir, as well as some architectural interventions. The gate of the Throne Hall was completely cleaned in 2007. This was followed by a major effort to develop and clean the site in 2008.

The World Monuments Fund supported the work in the Ayyubid complex, some interventions on the curtain wall, and participated in archaeological excavations in the Storm God temple area, the Ayyubid reservoir and the gate of the Throne Hall.

In parallel with the previous restoration and maintenance work, the infrastructure of visitors has been rehabilitated, which improved the ticket's office, and the design of the visitors' tour through the castle, linking the main interesting points within the site. The original stone-paved roads once completed, have been integrated into the tour plan, as well as improving the drainage services in the floors. A brochure was also designed to explain the tour path in the castle, identifying its important points, their names, and some historical information about them. , introductory panels were fixed in a number of important points of the castle, which will receive the shade, from the newly planted melia trees. A series of observation areas (views), which provide spectacular views of the surrounding historic city. A new visitors' center located in the Ottoman barracks on the northern edge of the site, was equipped with a small exhibition describing the history of the site, and an interactive room. A cafeteria adjacent to the visitors' center was prepared, the small museum in the castle was renovated and transferred to the newly renovated Ayyubid arsenal building and the adjacent tower near the Ayyubid palace. With the completion of these works, the Aleppo Citadel has become one of the most important tourist heritage sites in Syria, which provided visitors with a comprehensive and unique tour.

AKTC has completed its intervention with the project completion after providing an integrated management plan for the DGAM. This plan includes routine maintenance for

the structures and periodic inspections to ensure that all mechanical systems are working well and conducting periodic repairs of building materials, which are subjected to continuous corrosion.

As part of the rehabilitation of the historic surroundings of the Aleppo Citadel, AKTC has carried out a study of the urban design of the Citadel, in collaboration with the Directorate of the Old City and the German Agency for Technical Cooperation GTZ. In 2003, the Aleppo Governorate Council and the AKTC signed a protocol detailing the objectives and conditions of this study. The Planning Project of the citadel's surroundings objectives included the redirection of traffic in and around the Citadel, including improved pedestrian roads, public transport systems and parking spaces, as well as control over the future planning of the Old City and the protection of the physical and historical environment in the vicinity of the Citadel.

It also seeks to guide commercial development, in a more beneficial direction to the concerned areas, also to direct the old city in general as a tourist activity, in addition to protecting the surrounding residential areas especially from the pressure of business functions, adopting a plan for optimal use of land which enhance tourism and cultural functions, and complement rehabilitation efforts. With suggestions for the future use of both old, public or vacant buildings, and improving public places, the infrastructure, the landscaping of the castle and the development of initiatives for the surrounding neighborhood as part of the program. This initiative is based on the "Public-Private Partnership Framework", a partnership that was new to a country like Syria at that time.

Three main areas of social and economic intervention have been established in the adjacent neighborhoods of Bab Qinnasrin Future Park, with local needs explored through questionnaires and investigational surveys in the region. These development initiatives include working to increase levels of literacy among those over the age of 15, ensuring education for school dropouts, and providing medical services on a permanent basis. As well as the revival of cultural heritage, work to increase family income through technical training, and encouraging handicrafts. In addition to providing microcredit loans, improving access to and upgrading of open spaces, working to

improve accommodation and optimal maintenance of housing. The AKDN, of which AKTC is a branch, has a pioneering experience in all previous development areas.

The AKTC's experience in rehabilitating three Islamic castles in Syria (Aleppo Castle, Masyaf Castle, Salah Al-Din Citadel), the rehabilitation project included the restoration of the archaeological structure of these castles, and their historical surroundings, to become one of the most important tourist heritage sites in Syria. The main steps of restoration and maintenance were explained within the three castles, the various obstacles encountered by the restoration project, and how they were overcome. Thus, the AKTC's experience in rehabilitating the Aleppo Citadel and its historical surroundings, being the largest project, and as the most comprehensive and complete example, on the touristic rehabilitation projects of archaeological sites carried out by AKTC in Syria. The other reason for choosing the experience of Aleppo citadel is to monitor the reality of the castle and its surroundings for more than seven years after the end of the experiment and to note the great positive differences made by the rehabilitation project on the castle and its historical surrounding, and the living conditions of the inhabitants of the neighboring areas. The most important reason at the current stage is that AKTC recently signed joint work agreements with the Syrian side to reconstruct the destroyed parts of Aleppo Castle, the historic buildings located in the vicinity of the citadel, and the traditional market and shops within the old city of Aleppo, that were destroyed by the Syrian war.

The main objective of this research was to study the former experience of AKTC in the same region, to develop a clearer understanding of the work carried out by that experiment and to study seriously both the pros and cons. In light of this, useful recommendations will be given at the end of the research, to make the next experiences more professional and successful, and achieve the desired goals.

Through the study of the experience of AKTC, in the rehabilitation of Aleppo Castle and its historical surroundings, and subjecting this experience to the success criteria of the touristic rehabilitation for archaeological sites, which is mentioned in the first section of this research, it can be clearly concluded that this experience, despite the obstacles encountered, has achieved most of the proposed success criteria for the work, and thus we can judge on this experience, that it succeeded by 80% in achieving its

objectives, in the touristic rehabilitation of the archaeological site and its historical surrounding. This leads us to the most important conclusion that the repetition of the AKTC experience in Aleppo, while avoiding the cons of the previous experience, will be very important and may give more successful results. Taking into account the current reality of Aleppo Castle and its historical surrounding, which was devastated by the war and which is radically different from what it was in 1999 with the beginning of the previous AKTC experience in that region, the rehabilitation project in Aleppo citadel and its historical surrounding today needs to focus mainly on archaeological reconstruction, as an important priority, which requires advanced work techniques, and a team of professional experts in different fields who will work with the AKTC calibers in the next rehabilitation project.

The strengths of the AKTC project are:

There are a number of advantages and strengths of AKTC, which enable it to be at the forefront of institutions, which can achieve outstanding success, in any upcoming rehabilitation project for the Syrian archaeological sites. Moreover, the way that AKTC works, make it one of the best bodies that the Syrian side desires to deal with, in any of the future projects, and from the strengths of AKTC are the following:

1- **Accumulated experience formed by AKTC about the Syrian heritage sites,** especially the city of Aleppo, As AKTC is one of the AKDN branches operating in Syria for nearly 20 years, within different service areas (culture, health, education, development, architecture).

2- **The mentality and methodology of the AKTC work, which is different from other institutions operating in the same field**. Where the AKTC's long-term goal in most of its projects, in cooperation with AKDN agency's, (AKAM-AKES-AKCA-AKDN), is to raise the quality of life of local people in areas where these projects are executed, and that is what the Syrian situation needs, at present time and in the near future, As what we need in Syria after the end of the war is to work on developing the communities, rehabilitation and improvement of their living conditions, in parallel with the rehabilitation of historical sites tourist.

3- **Mutual trust between AKDN and the Syrian government side**. As a result of the work of AKDN with its various agencies, in Syria for nearly two decades, mutual trust has been created between AKDN and the Syrian side since 1999, this confidence should have facilitated AKTC's experience and made it more dynamic and effective without facing a bureaucratic obstacles spread in third world countries that hinder the progress of any development projects. It is this mutual trust that has encouraged the current Syrian government to communicate with AKTC, and has asked them to begin working on rehabilitating the Aleppo Citadel and its historical surroundings and other archaeological sites from Syria.

4- **AKTC is a non-sectarian and non-profit institution** (Jodidio, 2011), which represents the most important strengths of the AKTC in working within the current Syrian reality, where AKTC projects in Syria are Non-profit projects, does not carry certain religious or political agendas, and does not seek any investment for the restoration and rehabilitation work carried out in Syria. This is considered a positive factor in dealing with the Syrian situation, where it is just getting out from a destructive war on all levels and a difficult economic situation that does not allow it to bear the burden and costs of reconstructing and rehabilitating its archaeological sites.

Conclusion

Since the spring of 2011, Syria is exposed to the worst types of destructive wars, which, unfortunately, not finished until the date of writing these lines. This disastrous war affected all aspects of Syrian life, humanitarian, social, economic and cultural. None survived the effects of this war, which did not spare its evil for human or even stone. After Syria was one of the most developed countries in the Middle East in the beginning of 2011, in terms of economic, scientific and cultural aspects, moreover, it was a place of work to hundreds of national and foreign archaeological excavations, with all it contained from thousands of archaeological sites that spread within its lands, dating back to the various historical ages. And the center of the most important historical research, that most of which had stopped with the beginning of the Syrian war, since

then, everything related to scientific research has been disrupted, the ongoing archaeological studies has also been stopped, because of the security conditions deteriorating. Seven years later, with the end of the war, and the return of safety to a number of Syrian areas, all concerned bodies in Syria, international organizations and researchers were had to assess the current situation of the destroyed archaeological sites and historic buildings, to develop plans and studies for their reconstruction, and the rehabilitation of important touristic sites, to make them play an important role in receiving local visitors and tourists, and to contribute to the revitalization of the tourism sector again in supporting of the country's deteriorating economy.

It was difficult to directly preview the destroyed archaeological reality, that was due to many reasons, most important of which is the unstable security situation, the difficulty of reaching some areas, and the complexity of the current scene after the destruction of some important archaeological areas, which need a long time to be able to understood, and estimate the extent of destruction.

One of the solutions that will contribute to saving time and effort exerted in the rehabilitation work of those sites, and also will help in their success in the future, is to discuss and re-study by this research for the most important previous experiences, in the touristic rehabilitation of the archaeological sites, including the experience of the Aga-khan Trust for culture KTC, that has been applied previously on a number of Islamic castles in Syria, which we monitored the success of its work for several years after the completion of its tasks, and by focusing on these experiences, and conduct an in-depth study of the most important pros and cons, and the extent of it compliance to the standards of successful rehabilitation work, we could develop a prior understanding of the possibility of the success of this experiences, if applied again, on archaeological sites destroyed by the Syrian war.

However, the research considered that if this experience is applied again, it must take into account a different reality from what it has seen previously. These archaeological sites are no longer need any renovation and rehabilitation work, or improving facilities and services. But it became of an urgent need for a total rehabilitation, that may start from scratch at some cases, and includes successive steps from documenting the destruction, the preparation of preliminary studies for the future of archaeological sites

within their general surrounding, and starting reconstruction for the destroyed parts, and the maintenance and restorations for the remaining parts. Thus, the process of touristic rehabilitation is the step that culminates this new experience and returns these archaeological sites, despite their loss, to as close as possible to the pre-war situation.

As the touristic rehabilitation of archaeological sites is the main objective of the research, and it is a step of a series of successive operations that the archaeological site must be subjected to, to be able to return as a tourist site after the end of the war, it was necessary for the search to make a systematic study of the most important general frameworks governing the management of archaeological sites before the war, and the most important steps that must be followed in protecting these sites, by conducting periodic maintenance and restoration work, and a study of the most important international conventions and laws issued by international organizations regarding the protection and preservation of these archaeological sites and the most important guidelines to be followed in dealing with world heritage. It was also important to review the importance of tourism in general, and the importance of the tourism sector in supporting the economy of countries, and its role in rehabilitate the people and improve their standard of living. In addition, the procedures and steps adopted globally for the touristic rehabilitation of archaeological sites, besides mentioning the obstacles facing the process of touristic rehabilitation.

As the research addresses the rehabilitation of archaeological sites after the war, it was necessary to address the reconstruction of archaeological sites after disasters, talking about the history of the reconstruction process, and the most important international laws issued in this regard in the last two centuries, which outlined the procedures to be followed in the reconstruction process within the historical center, the most important trends and opinions in the reconstruction process, and the most famous arguments that opposed these works. Several experiments of post-war reconstruction of historic sites in a number of countries in the world were also mentioned. In an attempt to take advantage of that experience, in supporting of the new experience, which can be applied in Syria with the end of the war. At the end of this theoretical review of the general framework of the touristic rehabilitation process and the reconstruction process, the research concluded a number of basic standards of work success, Future experiments in Syria or

any other country should apply those standards to ensure the success of any touristic rehabilitation process and reconstruction of the historic areas destroyed after war.

This new experiment presented by this research is a multi-faceted approach. If rehabilitating archaeological sites and building what was destroyed during the war, in order to protect the heritage and support the tourism sector, is the declared aim of the research, the deeper and more important goal is to rehabilitate the community structure in those sites by working to rehabilitate the local population, who suffered the scourge of war, on all levels of psychological, social and economic. In addition, work to raise the quality of life, in those areas inhabited by the local population, in the vicinity of archaeological sites, and this is one of the main objectives of the research, which is no less noble and important than the touristic rehabilitation of archaeological sites.

The previous experience has great advantages, and some negatives that were presented and discussed in the research, and the repetition of the experience in the Syrian sites will be very important, after avoiding the obstacles encountered at the first experience. However, the main thing to focus on is that the next experience will be more broadly and in a more complex reality, and workers will face new obstacles that must be dealt with in a better way to successfully overcome them and to achieve the desired project objectives. In talking about the new objectives of the experiment project, it should be noted that the objectives of the new experiment are also broader and more comprehensive, and may be more important than the objectives of the previous experiment. In response to the above, the research will provide a number of important recommendations, stemming from a study of the previous experience, and its most important positives and negatives, and after a preliminary study of the Syrian reality, and the reality of historical sites destroyed.

These recommendations focus on the success standards of the reconstruction works in the destroyed archaeological sites and post-war touristic rehabilitation activities, as well as providing important tips that will contribute to the success of any future rehabilitation experience, and better meet the needs of the Syrian reality.

Recommendations

1- **The process of touristic rehabilitation Parallel to the reconstruction work,** Reconstruction is considered a priority among the post-war actions required to be implemented in the Syrian archaeological sites, followed in importance by the touristic rehabilitation process for these sites. However, there are many common details between reconstruction and rehabilitation work. So that merging between them is a very important idea, to accomplish more professional work, and as a result, saving time and effort and also saving the required financial resources, to perform both operations individually.

2- **Reconstruction work in archaeological sites should consider the possibility of similar disasters in the future.** This may seem difficult to implement, but the success of any new action, which is part of planning in the Old City, or in the reconstruction, must be implemented in a way that protects the archaeological site as much as possible in case of any new disaster. This is the task of those responsible of the reconstruction process, from archaeologists and architects, so that action are taken to strengthen archaeological construction during restoration, maintenance and reconstruction, so that they are somewhat able to withstand the negative effects of any future disaster. It is also the responsibility of government agencies and the international community to issue firm international laws in which all the member states of the United Nations are obliged to prevent any party to the conflict from using archaeological sites as centers of armed conflict under any circumstances. And issuing laws to isolate these sites, to be safe islands under international supervision, in case of any armed conflict happening in their vicinity. The re-planning of destroyed areas should also make use of the vicinity of archaeological sites, leaving free areas of the construction surrounding the archaeological site or historical buildings to become open public areas. Provided that the residents of the destroyed homes are compensated and transferred to other homes of better quality.

3- **Coordination between the work of touristic rehabilitation, and archaeological excavations**. As a result of the great destruction of the war, and the massive bombings in several areas, unexplored archaeological remains were discovered by accident. Archaeological missions carry out emergency excavations to uncover these archaeological remains, to assess their status and importance. Excavation works have always clashed with touristic rehabilitation activities in the same areas, and some of them have often disrupted the other in many areas. But with the organizing of work within the archaeological site and dividing of the site into sectors, so that the rehabilitation and reconstruction work focus on areas that do not contain archaeological excavations, and with the completion of the excavation work somewhere, the restoration work can begin in that place. Thus, the project of reconstruction and touristic rehabilitation and archaeological excavations will be carried out in the same place so as not to disturb each other. Therefore, the work of these projects will be carried out within the planned time-frame without any delay.

4- **The use of historical buildings in new functions**. The restoration and maintenance of historic buildings must be carried out in order to ensure their continuity and using them in new functions that commensurate with the current era and at the same time respect their historical and artistic nature. It is also possible to invest some historical buildings, in the tourism process, by reusing them and turning them into hotels and restaurants in the heritage style.

5- **Using the latest technology in the restoration process.** In the last ten years, there has been a revolution in the field of information technology, and three-dimensional printing techniques. These techniques can be used to reconstruct the destroyed archaeological parts and restore them to what they were in the past. In addition, building materials and modern methods of restoration have been developed, which further preserve the architectural style of the reconstructed building and provide better quality in the work. Any rehabilitation project must use these modern techniques to ensure the project success, and saves the efforts and funds allocated to these works, thus giving greater quality in the final work. Future reconstruction work must have the flexibility to accomplish work, so that the rehabilitation project operators have the freedom to make certain actions that

they see necessary for the success of the project without blind adherence to the strict restoration and rehabilitation laws.

6- **Improving the infrastructure, within the archaeological site, its historical surroundings, and adjacent areas.** The success of any touristic rehabilitation project for any archaeological area will receive varying numbers of visitors, will depend on the ability of this project to improve the infrastructure situation in the tourist site and in the surrounding areas. After the great destruction that took place in the Syrian archaeological sites, a large part of the infrastructure of these sites was catastrophically destroyed, and it became the duty of the next rehabilitation project, during the re-planning of these archaeological sites and surrounding areas, to take into account the establishment of modern infrastructure, that suits the new reality of these sites, taking into account the probability of increasing the population density in those sites after the war, and the development of the infrastructure must include all areas surrounding the new rehabilitated site.

7- **Ensuring the safety and security of visitors to archaeological sites, which are rehabilitated after the war, and facilitating the movement within the site**. As mentioned earlier, the reality of the battles and heavy shelling, which the archaeological sites witnessed, caused a general weakness in the structural structure of historical buildings, accumulation of debris, and a radical change in the features of those areas, as a result of the great destruction that happened. This new reality threatens the safety of visitors to those sites, whether residents of these areas or local visitors, or foreign tourists, and impedes the movement within and around the site. Those who are working on rehabilitation and reconstruction project should secure the archaeological sites and surrounding areas, not only by removing the debris left by the war, but also by strengthening the structural structure of these sites and protect them from collapse by applying preservation and periodic maintenance. Organizing the sections of the site must be done, so that everything is clear and shown with signboards, in addition to the design of clear paths for the movement, facilitate the movement of visitors within those sites.

8- **Harmony and elegance in urban design for the facilities and recreational elements, within and around the archaeological site**. The former experience of the Aga Khan in rehabilitating the Aleppo Citadel and its vicinity is a very successful example in the elegant and distinctive urban design of the public facilities in the vicinity of the Citadel and the visitors' centers and rest areas within the Citadel. Any future experience in the touristic rehabilitation of archaeological sites should highlight the aesthetics of the archaeological site by designing the environment surrounding the site and the recreational facilities that are added, from the design of the floors, the seats, the garbage baskets, the lighting poles, the design of the cafeterias and the rest areas inside and outside the site, provided that the design should take into count the elegance, consistency with the archaeological style of the site, and be highlighting the beauty of the site, without infringing on its authenticity

9- **Preservation of the archeological style in the reconstruction process, within the historic Center.** It is one of the most important recommendations of UNESCO, which emphasizes the preservation of the archaeological character of the site, in any action carried out within the process of reconstruction, and the touristic rehabilitation of archaeological sites, without infringing on the authenticity of the site and its historical peculiarity, and following the same archeological style in the modern construction works in the historical sites, in a way that modern construction conforms to its design, with the traditional buildings adjacent to it, without resorting to the process of imitation or historical reproduction (ICOM-CC, 2008). Another important point in the process of rehabilitation within the historical center is the possibility of using modern building materials such as reinforced concrete, in strengthening the structural structure of the archaeological building, when its use is necessary to protect the building. However, such use must be on a small scale and in a non-visible manner, while maintaining the authenticity of the building's archaeological character.

10- **Establishment of field museums, within the touristically-rehabilitated archaeological sites (site museum).** Archaeological sites, which are being touristically-rehabilitated, are still occupied with archaeological excavations,

with the aim of uncovering archaeological remains that may be located beneath the site. Often, these excavations reveal archaeological levels, dating back to earlier periods than the archaeological site. These discoveries are very important. They provide an integrated picture of the mechanism of development of the building within the archaeological site and the various successive human civilizations that the site had. This important factor should be used in the tourism process through the establishment of field museums covering the excavated area after the completion of the excavation.

Establishment of site museum, within the touristically-rehabilitated archaeological sites. The function of these museums is to create a covered zone above the excavation squares, protecting them from weather and rain, and to provide the floor of these museums with tempered glass panels, allowing visitors to cross above the excavation squares and to watch the most important recent discoveries without damaging the archaeological structure of the site. These museums can contain glass cabinets, showing copies of the most important archaeological finds, which were found during the excavations, with some explanations about them. In addition, these field museums could be built in other places dedicated to it within the archeological site. They may be provided with an interactive section, with displays(LCDs), three-dimensional design technique, which gives an imaginary view of the sections of the site and its construction state through different historical ages. The mission of this type of museum is to attract the attention of the visitors and to give them the opportunity to live a unique experience, by giving a clear and complete picture of the historical periods and the changes that took place in the archaeological site, all within a limited space that doesn't exceed the area of this museum.

One of the suggestions now being made at Aleppo citadel in this regard, is to design a suitable site museum, covering archaeological excavations places, in the (Temple of the Storm God) area, in the center of Aleppo Castle. The proposal is to create a field museum, with a modern design suitable for the archaeological style of the place, and with the use of suitable building materials (stainless steel, tempered glass panels, and wood), this museum provides a unique visit to the Temple of the Storm God dating back to the 3rd millennium

BC. It will be a great attraction for local visitors and foreign tourists interested in this kind of discovery and will increase the historic importance of Aleppo Citadel and its future touristic role.

11- **Create a continuous monitoring mechanism for the archeological site, and develop an integrated plan for its management, after the completion of the touristic rehabilitation project**. With the completion of the reconstruction projects and after the rehabilitation of the tourist site, the project management should design a continuous monitoring mechanism that collects the information about the site, periodically with the time, analyze this information to detect the changes that occur, this facilitates the identification of problems and damage that threaten the archaeological structures frequently and identify areas of weakness. Practical and administrative actions are then taken when needed to stop or reduce the causes of damage. This monitoring also includes monitoring changes in external pressures applied to the place, changing the status of the place, as well as monitoring the efficiency of the administrative procedures and the technical maintenance of the place, routine maintenance of the structures and conducting periodic inspections to ensure that all mechanical systems are functioning well, and periodic repair of building materials, subjected to continuous erosion. To ensure that the monitoring process has the desired results effectively, it must be persistent, following a standardized method of collecting information in all locations and a uniform format of the reporting mechanism on the key requirements for the required reforms. Therefore, the archaeological site is well managed, while maintaining its safety and the safety of its visitors.

12- **The best media marketing for archaeological sites, after the completion of touristic rehabilitation projects.** The main purpose of the rehabilitation of any tourist archaeological site is to prepare it to receive visitors, and to equip it to attract as many foreign tourists as possible. However, the fieldwork carried out by the rehabilitation project is insufficient to attract visitors to the site. The touristic rehabilitation work should be accompanied by a professional media campaign that can reach as many people as possible, using all available media means(audio, visual, social media, etc.), and have the ability to convince the recipients of the importance of the tourist site, encouraging them to visit. The

success of the media campaign is measured by its ability to attract the largest number of foreign tourists, who are mainly dependent on them, to support the tourism sector, bringing with them hard currency. The media campaign must be in many languages, in various countries of the world, so as to achieve the largest spread, and to suit the mentality of the recipients in different countries of the world and convincing them to visit the site, and thus that campaign achieve its goal to attract as many as possible tourists to the archaeological site, and thus achieve the main objective from the touristic rehabilitation of those archaeological sites.

Recommendations for community development within the historical context:

The development and rehabilitation of societies is a long-term process that needs years of hard work, but it is one of the greatest noble human endeavors. It is a clean investment in every sense of the word and a solution to all the problems that the countries face, because the advancement of the individual person is the first step to elevate the nations. Therefore, we should focus on this important point, for the success of any future project, in any area of life.

1 The development of local communities, and work to improve the quality of life, in the vicinity of the archaeological site. The barbaric war affected Syria greatly, with catastrophic consequences for the infrastructure and housing, and displacement of residents from the vicinity of archaeological sites, which were mostly relatively poor areas. After the return of security to these areas and the return of people to their destroyed homes in totally or partially, here will be the problem facing any future reconstruction project at those sites. The priority is to address humanitarian issues and improve the destroyed residential environment to bring people home. The next step is to create a clear vision for post-war recovery, which includes reconciliation among the people, and re-engagement in a positive social participation environment that takes into account the issues of community identity, economic reconstruction and a sense of place. This is by opening a direct dialogue with the survivors of the war, discussing the reconstruction work, and planning for the sustainable future of their areas, and studying these communities to understand the general mentality and identify their needs within

any future rehabilitation plans and make them partners in implementing all these projects.

A rapid and effective response to the needs of these communities should be planned when reconstruction operations start, which should re-plan the surrounding areas and the construction of destroyed houses within the new plans, so as to improve the residential reality in those areas, and work on raising the standard of living, the creation of new jobs for the local population and the improvement of the quality of life in those areas.

2- Rehabilitation of communities, raising awareness of the importance of cultural heritage, and contribute to the preservation of archaeological and tourist sites. This is one of the most important steps of raising awareness and building the right societies in any country. This task is the responsibility of countries through their various institutions (education, culture and information). As it is necessary to educate future generations to respect the country's cultural heritage, and the importance of joint work of the people to protect the archaeological, cultural and tourist sites of this country by introducing these important ideas within the educational curricula in different educational stages to create generations equipped with moral values and principles that will encourage them to preserve, and protect the heritage without endangering it. The spread of tourism thought the community is very necessary. The public must be aware of the exceptional importance of the tourism sector in supporting the economy of the country, directly and indirectly affecting the citizens of the country, thereby improving services, raising the standard of living and creating new job opportunities. The responsibility of people awareness is on the Ministry of Information and civil society organizations, as they have the ability of holding training sessions for the local population in order to raise awareness of the importance of their role in the tourism process. And make them feel that they are partners in decision-making in their areas and develop their sense of responsibility in the preservation of archaeological sites.

3- Dependence on the local population, as working hands in most of the work of reconstruction projects, and the touristic rehabilitation in the future. Those involved in the management of reconstruction projects and touristic rehabilitation

projects must recognize that local war-survivors are entitled to participate in all reconstruction work in their areas, because they are most in need of such jobs and by engaging them in business, one aspect of development in those affected areas is achieved by creating new jobs. The next advanced step in this area is to conduct training courses for the population to train them in building, maintenance and restoration skills and to qualify for any future reconstruction and rehabilitation projects. The quality of the reconstruction and rehabilitation projects is increasing in terms of its ability to provide the local population with new professional and technical skills, create new jobs for them and engage them into the labor market.

4- The touristic rehabilitation for archaeological sites should be in the interest of the local population and dose not contribute to their impoverishment. The touristic rehabilitation of some areas, in the vicinity of archaeological sites, often leads to an increase in taxes, real estate prices and all types of food commodities in those areas and randomly, this negatively affects the population of poor areas, adjacent to archaeological sites, and increases their poverty. The solution to this problem lies with the government agencies, by creating a fair tax law that will compensate the poorer social strata and find alternative solutions that reduce the prices of goods by providing them at low prices within state-owned consumer institutions. Moreover, reducing the tax on traditional shops in those areas, which contributes to a significant reduction in prices. Allowing the regulation of popular markets within certain days and under specific laws that allow citizens to display their traditional products and sell them to visitors and tourists, thereby supporting local production, creating new employment opportunities and improving income for the poor.

Finally, Publication of studies related to the project of reconstruction and touristic rehabilitation of archaeological sites after the war. After the completion of the reconstruction projects, and ending with the work of touristic rehabilitation in the historic center, all the steps taken by these projects, from the study of the destruction of archaeological sites to the stage of reconstruction plans and maintenance work, should be documented until the implementation of these plans and finish field work. These documents should then be compiled into detailed studies, recalling the most important

steps of the work, the obstacles faced by the reconstruction project, and the procedures adopted to overcome these obstacles, and finally, a preliminary evaluation of the success of the experiment. Then Publication of these studies, in scientific journals, and websites. So as to be valuable experiences that can be utilized and re-applied in other regions of the world. It can also be compared with other similar experiments, and study the intersection between them, and the most important pros and cons that have been replicated, which may enable us to reach important results that help to apply more recent, successful experiments.

Application of any new experience after the war for these previous recommendations, in the reconstruction and touristic rehabilitation of archaeological sites, in addition to following the success of work standards, mentioned in Part I of this research, may ensure great success for this experience, and help those who are responsible for the work to overcome a lot of obstacles expected in research, and finding appropriate solutions. This new experience may contribute, after its application on the ground, to be from the most important examples of this type of experiments, to its distinguish which is due to the reality of the complex Syrian situation, which can be utilized in other locations, from the countries of the world that may be going through similar circumstances. But it must be taken into consideration, that during the application of the new experience, a number of new obstacles on the ground weren't expected in research, or are not addressed, could face those who are responsible for the work,

and here we must focus on the importance of careful follow-up to the work of the new experience, and document all steps, and what obstacles faced and how they were overcome, and the publishing of the most important findings of its results and solutions, development of such work within the scientific studies to be deliberated, and take advantage of them in the best way, within any future experience anywhere in the world.

Finally, it must be emphasized that this study, despite of its importance, is only a stepping stone for future relevant research within the field of touristic rehabilitation of archaeological sites. We hope that our recommendations will contribute to the success of future experiences in the rehabilitation of post-conflict archaeological sites

worldwide, and that new challenges faced during these experiences will be translated into further recommendations to enrich this effort.

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Annexes

Annex 1: Figures

Figure: 1, Temple of Storm God

(AKTC, 2007)

Figure: 2, The Ottoman structure remains

(AKTC, 2007)

Figure: 3, removing the cement mortar

(Culture, 2001)

Figure: 5, the pavement of the Ayyubid Palace courtyard, before intervention 2001

(Culture, 2001)

Figure: 6, the pavement of the Ayyubid Palace courtyard, after intervention 2003

(AKTC, 2007)

Figure: 7, the entrance portal before restoration

(Culture, 2001)

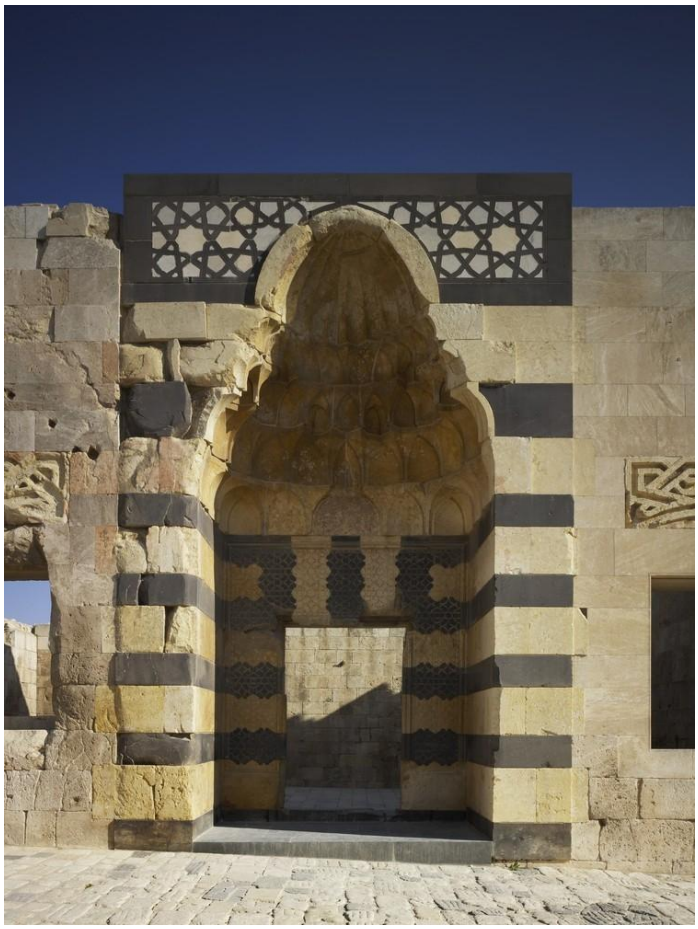

Figure: 8, the entrance portal after restoration

(AKTC, 2007)

Figure: 9, muqarnas in the portal ceiling

(Gonnella, 2008)

Figure: 10, using aerosol mist spray to clean the stone surfaces

(Gonnella, 2008)

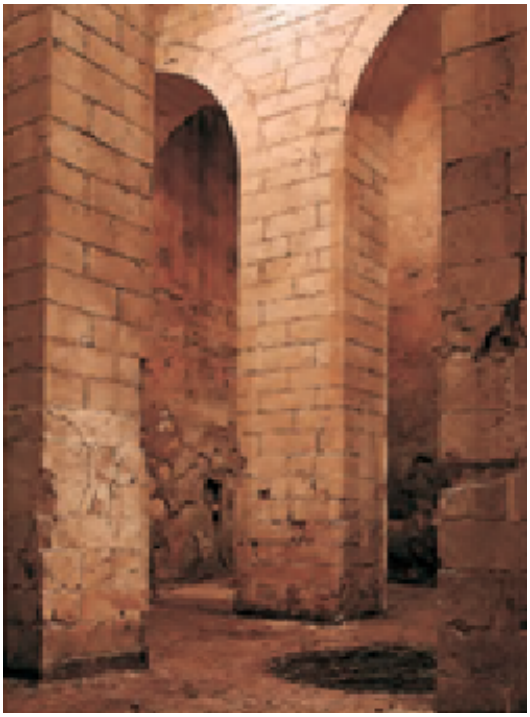

Figure: 11, The Ayyubid reservoir

(Jodidio, 2011)

Figure: 12, injecting a new mortar into the spaces inside the wall

(AKTC, 2007)

Figure: 13, injecting a new mortar into the spaces inside the wall

(AKTC, 2007)

Figure: 14, the wall heads maintenance

(AKTC, 2007)

Figure: 15, the wall heads maintenance

(AKTC, 2007)

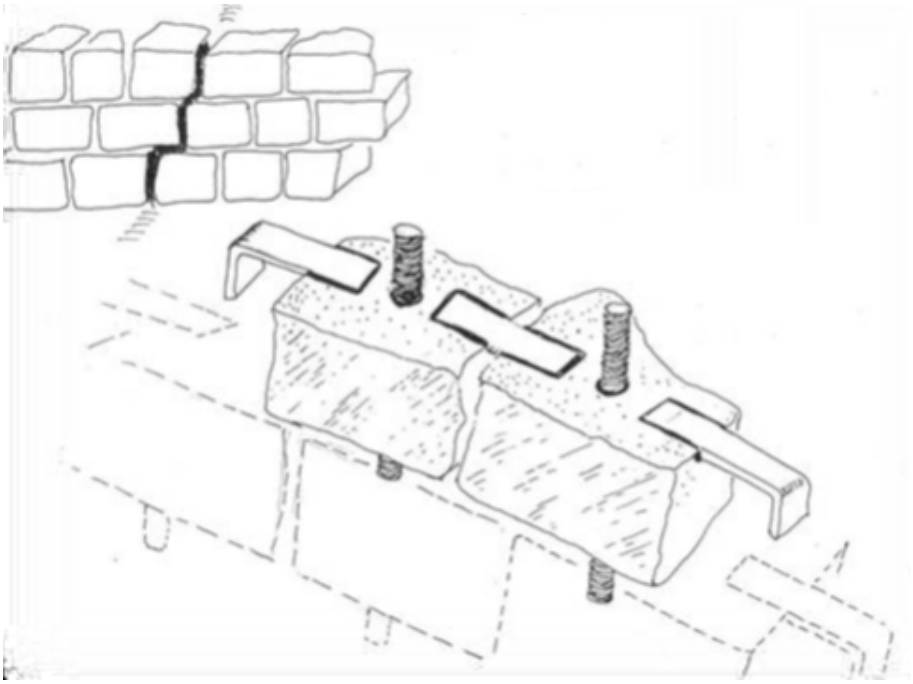

Figure: 16, installing unstable stones in the wall using stainless steel screws

(Gonnella, 2008)

Figure: 17, improve the water drainage system within floors

(Jodidio, 2011)

Figure: 18, seat rows in the main square

(Jodidio, 2011)

Figure: 19, main square, Sultan School, Yalboga bath and the Grand Serail

(Jodidio, 2011)

Figure: 20, an art exhibition in the main square in front of the citadel

(Khirfan, 2016)

Figure: 21, the cafeteria on the south side of the visitor center

(Khirfan, 2016)

Figure: 22, the modern runway in the citadel

(Gonnella, 2008)

Figure: 23, royal bath in the Ayyubid palace complex

(Jodidio, 2011)

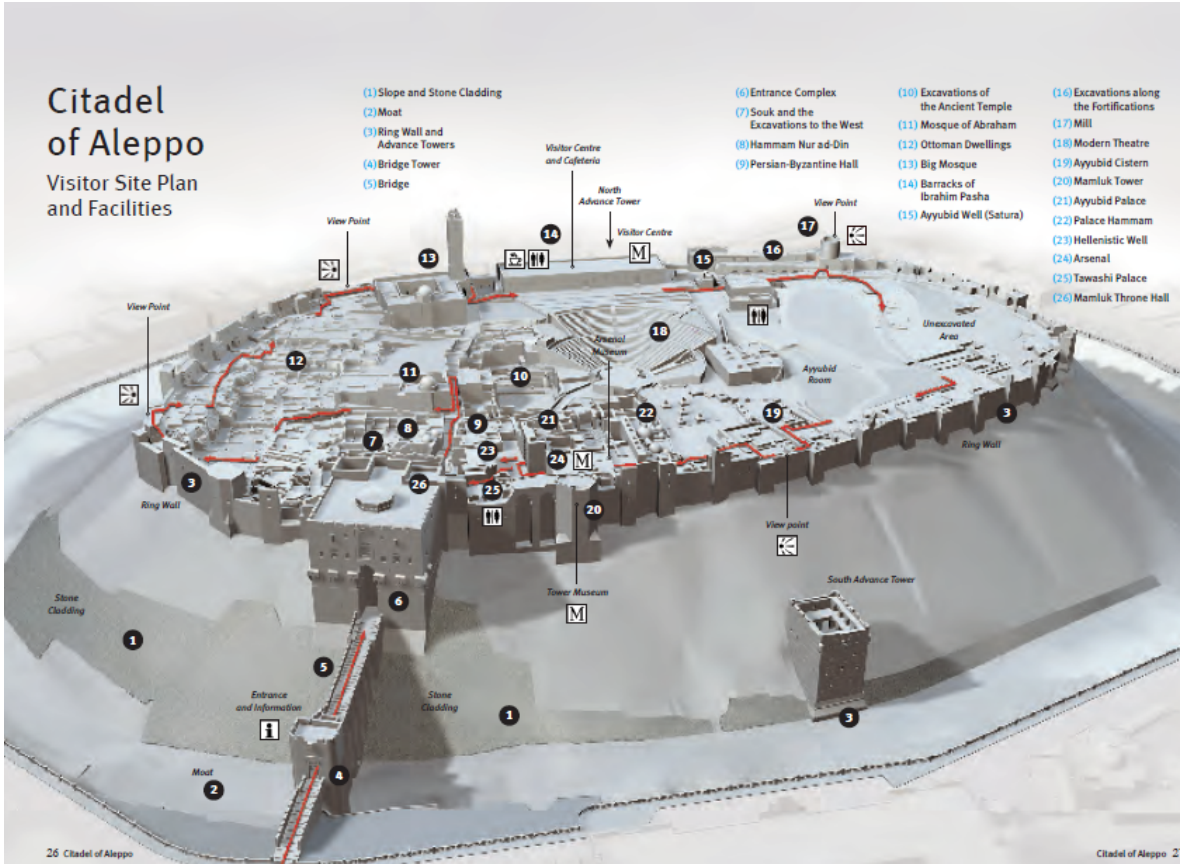

Figure: 24, visitor site plan and facilities

(AKTC, 2007)

Figure: 24, the outer lapidarium blocks next to Visitors' Center

(Jodidio, 2011)

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