

**Report on the Joint World Heritage Centre-ICOMOS
Reactive Monitoring Mission to
Samarra Archaeological City, Iraq (C276 rev)
5 to 9 June 2011**



The spiral minaret of Abu Dulaf Mosque, Samarra

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- Mr. Qais Rashed, SBAH Chairman
- Ms Faeza Hussein Hussein, Director General of Restorations and Engineering, SBAH
- Mr. Saleh Mohammad Redha Al-Mufti, chef engineer, SBAH
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- Mr. Mahmoud Khalaf Ahmad, Mayor of Samarra

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EXECUTIVE SUMMARY AND RECOMMENDATIONS

The findings of this report are based on previous documentation and brief field observations made during the reactive monitoring mission to Samarra undertaken from 05 to 06 of June 2011. It presents a review of context and problems and draw up a preliminary evaluation on the present conditions of the site and its monuments followed by general recommendations for remedial actions for addressing urgent threats and consolidating the knowledge base upon which a precise condition assessment analysis can be properly made and subsequent interventions proposed.

Despite the very short time of the mission, and taking into consideration the extension of the site of Samarra, the variety of monuments and the number of problems to be assessed, the priority was given to site inspection. The mission was an opportunity to discuss major conservation problems with the SBAH local team and to inspect the site in order to draw up a mapping of the most important threats and to identify the origin of pathologies which threaten the stability and physical integrity of the monuments and ruins. The issues related to the implementation of the decisions of the World Heritage Committee were discussed with the inspector of the site of Samarra as well as the representative of SBAH. However, it was understood that they were not informed of these decisions and no document or element of response has been made to our request to review the corrective measures for Desired State of Conservation for Samarra and Ashur properties to be carried out in order to remove the properties from the List of World Heritage in Danger. In this respect, an additional meeting was held at the Baghdad National Museum with Mr. Qais Rashed, Chairman of SBAH in order to discuss the imperative need to prepare and to review the UNESCO decisions and to collect maximum amount of information.

It should be stressed that the Site Management Plan crucial to achieve a comprehensive approach to the site conservation and development that guarantees the long-term preservation and sustainability of the site and allows its economic development has not yet been prepared. Management planning for the property needs to prioritise the elaboration of a comprehensive conservation plan detailing general conservation strategies, especially in the fields of physical conservation, protection and stabilization of endangered monuments within the site of Samarra.

It should be also underscored that the site management unit has not yet been established and the actual staff appointed is composed in majority by guards except the inspector who is an archaeologist. In this regard, it's essential that the SBAH should take decision to create the Samarra site management unit with adapted staff to coordinate archaeological research and excavations, conservation, interpretation and to prepare and implement the Site Management Plan. The regular maintenance of the site, the continued conservation activities are the core of the needs to sustain the Outstanding Universal Value of the property that warranted inscription in the World Heritage List. Deficiencies and lack of implementation of the decisions of the World Heritage Committee and the delay in setting

essential conditions for the conservation and management of the property creates an ongoing threatening situation.

According to discussions with the SBAH representatives and Samarra authorities, there are still some significant problems, and a major issue is the lack of financial means and the political instability of the Salah al-Din governorate. Compared to other regions of Iraq, Samarra City has relatively a stable security situation; however the members of the local Staff still have difficulties to work on a regular basis. This situation is mainly due to the large size of the site (about 41 km de length and 8 km width). The permanent presence of 14 guards to ensure the protection of the more important monuments and sites does not suffice and SBAH need to mobilize more personal, more mobility and build more site fencing in order to avoid anthropogenic threats and vehicles intrusion on the sensitive sites, as is the case of the Abu Dalaf mosque where existing conditions make it difficult to ensure the protection of this significant monument.

The list of general recommendations and prioritized emergency actions to be implemented was prepared in collaboration with the State Party to complement the results already achieved by national, regional and local institutions:

1. For the sustainability and effectiveness of the conservation and management system of Samarra Archaeological City, it is important that the site unit should be installed as soon as possible. In addition, planning processes need to be undertaken to ensure the adequate tools to guide decision-making are formulated
2. The Samarra local staff should be reinforced and need to be actively re-engaged with the site activities. The site staff should be involved at every stage of the conservation and management process and the development of the site;
3. The current Samarra Archaeology Inspectorate has been created at a lower level than is the case for World heritage Sites. For this reason we recommend to create a Site Office with more authority, status and responsibility to implement the future Site Management Plan and to permit effective relationships with other administration authorities of the regions and with other stakeholders. We therefore recommend that the Site Office should be created as an independent Centre, and its status raised to a higher level within the SBAH structure;
4. In order to ensure the full effectiveness of the site office operating, it is recommended that the existing building located at the eastern part of the Malwiya Mosque is rehabilitated. The previous SBAH headquarters building, constructed in 1982 within the framework of the archaeological revitalization project of the historical city of Samarra, was completely abandoned after the occupation of the site by the coalition forces in 2004. The rehabilitation and reuse of this building as a Center for the site staff has been already submitted by the Samarra Inspector to local and national authorities. In parallel, a request for building a new museum and site headquarters near the Malwiya Mosque

has been submitted to the Salah ad-Din governorate and is currently under evaluation. The finalization and implementation of the project can be considered as a priority;

5. It is recommended that SBAH integrates a multidisciplinary team (archaeologists, architects, conservators, administrators, masters and workers) dedicated to Samarra Archaeological City. This team should take an active role in the development of the site management plan, including comprehensive conservation and archaeological research programmes. It would subsequently coordinate the implementation of the prescribed actions and would seek to establish effective cooperation with local and international partners and with various local communities. For this to successfully occur, capacity building is required in site management, Planning, documentation, condition assessment, monitoring, research, archaeological excavation and implementation of conservation works. The site staff should also work closely with local and national stakeholders, including the Ministry of Culture, the State Ministry for Tourism and Antiquities, the Ministry of Education, the Samarra municipal and Salah al-Din governorate administrations, as well as with international organizations;
6. In addition to capacity building, efforts should be made to ensure that existing references and standards for practice at the international level are made available to local and national SBAH professionals to assist them in their overall national planning for World Heritage sites and national heritage;
7. An increase in training activities to build local capacities in the field of mud brick conservation is needed;
8. Recognizing that building capacity for management can take time, it is recommended that while the management plan is being developed a comprehensive conservation plan, with priority emergency interventions is formulated. This should include the corrective measures that are needed to sustain the Outstanding Universal Value of the property and ensure that conditions of integrity and authenticity continue to be met. The State Party could submit an request for international assistance so that a clear strategy can be drawn up by a multidisciplinary and international group, as was recommended by the World Heritage Committee at its 33rd session. In addition, grants for capacity building on management and conservation should be explored.
9. Preventive conservation actions to undertake include archaeological cleanings, removal of spoil heaps, drainage, backfilling, temporary stabilization, propping and shoring of endangered structures, capping and superficial protection of walls. This program can be implemented immediately with very limited intervention on the original fabric;
10. Baseline documentation to record state of conservation and interventions is needed. A strong program of research and documentation is required to set a historical and technical database to substantiate interventions and actions to be taken in the future. This should include a general site level condition survey and documentation of each

monument within the Samarra Archaeological City including architectural plans. Archaeological cleanings and excavations can be proposed as part of the documentation process. Architectural and topographical survey will include the standing monuments as well as the excavated zones and ruins. Archaeological, historical, and architectural documentation and archives (both domestic and international) need to be collected. It is also important to better understand the previous SBAH reconstruction and restoration campaigns that have taken place at the site since 1981;

11. A mandatory provision to prevent the impact of the future development of the modern city of Samarra is needed while a Management Plan is formulated. Regulatory measures should consider that any significant public works in the vicinity of the site need to be preceded by heritage and environmental impact assessments, in response to the values and attributes of the property.
12. Finally, the State Party expressed its wish to retain Samarra on the World Heritage List in Danger because of continuing unstable situation, the violations of the country's antiquities, the lack of respect for the Antiquities Law and illegal digging.

1. BACKGROUND TO THE MISSION

Inscription history

Samarra Archaeological City was inscribed on the World Heritage List in 2007 under criteria (ii), (iii) and (iv). It was also inscribed on the List of World Heritage in Danger that same year. The site was a powerful Islamic capital city that ruled over the provinces of the Abbasid Empire extending from Tunisia to Central Asia for a century. Located on both sides of the River Tigris 130 km north of Baghdad, the length of the site from north to south is 41.5 km; its width varying from 8 km to 4 km. It testifies to the architectural and artistic innovations that developed there and spread to the other regions of the Islamic world and beyond. The 9th-century Great Mosque and its spiral minaret are among the numerous remarkable architectural monuments of the site. The city was built in a single layer, 80% of which is unexcavated. The main building materials are fired brick, mud brick, with gypsum or mud mortar.

Criteria and World Heritage values

Criterion (ii): Samarra represents a distinguished architectural stage in the Abbasid period by virtue of its mosques, its development, the planning of its streets and basins, its architectural decoration, and its ceramic industries.

Criterion (iii): Samarra is the finest preserved example of the architecture and city planning of the Abbasid Caliphate, extending from Tunisia to Central Asia, and one of the world's great powers of that period. The physical remains of this empire are usually poorly preserved since they are frequently built of unfired brick and reusable bricks.

Criterion (iv): The buildings of Samarra represent a new artistic concept in Islamic architecture in the Malwiya and Abu Dulaf mosques, in the form of a unique example in the planning, capacity and construction of Islamic mosques by comparison with those which preceded and succeeded it. In their large dimensions and unique minarets, these mosques demonstrate the pride and political and religious strength that correspond with the strength and pride of the empire at that time.

Statement of Outstanding Universal Value

The ancient capital of Samarra dating from 836-892 provides outstanding evidence of the Abbasid Caliphate which was the major Islamic empire of the period, extending from Tunisia to Central Asia. It is the only surviving Islamic capital that retains its original plan, architecture and arts, such as mosaics and carvings. Samarra has the best preserved plan of an ancient large city, being abandoned relatively early and so avoiding the constant rebuilding of longer lasting cities.

Samarra was the second capital of the Abbasid Caliphate after Baghdad. Following the loss of the monuments of Baghdad, Samarra represents the only physical trace of the Caliphate at its height.

The city preserves two of the largest mosques (Al-Malwiya and Abu Dulaf) and the most unusual minarets, as well as the largest palaces in the Islamic world (the Caliphal Palace Qasr al-Khalifa, al-Ja'fari, al Ma'shuq, and others). Carved stucco known as the Samarra style was developed there and spread to other parts of the Islamic world at that time. A new type of ceramic known as Lustre Ware was also developed in Samarra, imitating utensils made of precious metals such as gold and silver.

Since the war in Iraq commenced in 2003, this property has been occupied by multi-national forces that use it as a theatre for military operations.

The conditions of integrity and authenticity appear to have been met. After abandonment by the Caliphate, occupation continued in a few areas near the nucleus of the modern city but most of the remaining area was left untouched until the early 20th century. The archaeological site is partially preserved, with losses caused mainly by ploughing and cultivation, minor in comparison with other major sites. Restoration work, implemented within the framework of the 1980s revitalization project of the historical city of Samarra, has been in accordance with international standards except for the extensive restoration and reconstruction of the Great Mosque, the Circular Basin of the Caliphal Palace and the Al-Ma'shuq Palace which are intrusive using poor quality materials, techniques and approaches.

The boundaries of the core and buffer zones appear to be both realistic and adequate. Prior to current hostilities, the State Party protected the site from intrusions, whether farming or urban, under the Archaeological Law. Protective procedures have been in abeyance since 2003 and the principal risk to the property arises from the inability of the responsible authorities to exercise control over the management and conservation of the site.

Examination of the State of Conservation by the World Heritage Committee and its Bureau

Initial review of the property by the World Heritage Committee took place at the 31st session in 2007¹. The Committee inscribed Samarra Archaeological City, Iraq, on the List of World Heritage in Danger and requested the State Party, in consultation with the World Heritage Centre and ICOMOS, to develop a draft statement of the desired state of conservation for the property based on its Outstanding Universal Value and Recommended that all possibilities offered by the *World Heritage Convention* be used to engage immediately in preventive measures and, when the situation made this possible, in conservation work for Iraq's cultural heritage generally and for all properties inscribed on Iraq's Tentative List in particular.

At the 32nd session², the World Heritage Committee noted with great concern the continuing difficult situation in Iraq and deplored the loss of human lives. Also noted with concern the continued destruction of the archaeological remains through vehicular movements and called upon the State Party to ensure that this is addressed. The World

¹ See WHC-07/31.COM/8B and WHC-07/31.COM/INF.8B.1

² See WHC-32COM 7A.17

Heritage Committee encouraged the State Party, should the situation allow it, to implement the corrective measures identified:

- a) Establishment of a local management coordination unit on the site;
- b) Preparation and implementation of a conservation and management plan;
- c) Maintenance and emergency conservation activities.

The World Heritage Committee reiterated its request to the State Party to develop, in consultation with the World Heritage Centre and the Advisory Bodies, a proposal for the Desired state of conservation for the removal of the property from the List of World Heritage in Danger, for examination by the World Heritage Committee at its 33rd session in 2009 and called upon the international community to assist, in every way possible, the State Party in the protection of this property, with the advice of ICOMOS. The World Heritage Committee requested the State Party, should the situation allow, to invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to Samarra and also requests the State Party to submit to the World Heritage Centre a report for examination by the World Heritage Committee at its 33rd session in 2009 and decides to retain Samarra Archaeological City on the List of World Heritage in Danger.

At the 33rd session³, the World Heritage Committee Recalling decision adopted at its 32nd session (Quebec City, 2008) and requests the State Party, should the situation allow it, to implement the corrective measures identified:

- a) Establishment of a local management unit on the site;
- b) Preparation and implementation of a conservation and management plan;
- c) Maintenance and emergency conservation activities.

The World Heritage Committee reiterates its request to the State Party to develop, in consultation with the World Heritage Centre and the Advisory Bodies, a draft Statement of Outstanding Universal Value and a proposal for the desired state of conservation for the removal of the property from the List of World Heritage in Danger, for examination by the World Heritage Committee at its 34th session in 2010; and encourages the State Party to submit an International Assistance request for technical cooperation in order to address the damages to the property, and the need to develop remedial strategies which take into account the geographical extent of the property and its present security conditions;

It Calls upon the international community to provide all necessary assistance to the State Party in the protection of this property; and Also requests the State Party, should the conditions allow it, to invite a joint World Heritage Centre/ICOMOS reactive monitoring mission to Samarra to assess the state of conservation of the property; and decides to retain Samarra Archaeological City (Iraq) on the List of World Heritage in Danger.

Justification of the mission

In conformity with the Decisions of the WH Committee 34 COM 7A.18 and 34 COM 7A.19 (attached) adopted by the World Heritage Committee at its 34th session (Brasilia, 2010),

³ See *WHC-09/33.COM/7A.Add*

concerning the state of conservation of Ashur and Samarra, inscribed on the World Heritage List respectively in 2003 and 2007 and on the List of World Heritage in Danger the same years, and taking into consideration the Operational Guidelines for the Implementation of the World Heritage Convention, the Committee requested the State Party to invite a joint World Heritage Centre/ICOMOS reactive monitoring mission to visit the property to assess the state of conservation of the two sites and assist the State Party with technical guidance to address the following issues:

1. Visit the properties and meet with relevant local and national authorities, to discuss and review:
 - a) the current situation and the overall state of conservation of the properties;
 - b) the implementation of the decisions of the World Heritage Committee;
2. Assist the State Party in revising and detailing the corrective measures to be carried out in order to remove the properties from the List of World Heritage in Danger and define an approximate timeframe to this end;
3. Assist the State Party in drafting a proposal for the “Desired state of conservation for the removal of the properties from the List of World Heritage in Danger”;
4. Assist the State Party in revising the draft proposal for the “Statement of Outstanding Value” for the site of Ashur.
5. Prepare a comprehensive report according to the established format, including recommendations and an executive summary, by 30 June 2011, as well as the verbal report to be provided to the State Party and further reviewed by the World Heritage Committee at its 35th session (Paris, 19-29 June 2011).

2. National policy for the preservation and management of the world heritage property

PROTECTION, CONSERVATION AND MANAGEMENT

Boundaries of the nominated property and buffer zone

Any updated maps to review the boundaries and the buffer zone were submitted to the mission and given the very limited time of the visit and the constraints related to the extended site, we have not been able to examine on the ground this issue. Thus, it is recommended to complete this section during the subsequent missions.

Ownership

According to Article 7 of the 2002 Iraqi Archaeological Law No 55, Samarra Archaeological City is considered to be public property in which no dealings are allowed. Ownership is delegated to the State Board of Antiquities and Heritage, and registered officially in the name of the Iraqi Ministry of Finance.

Conservation

According to the results of the reactive monitoring mission to Samarra Archaeological City, the major part of the site is still unexcavated and the authenticity and integrity of the remains and standing monuments are acceptable except three (3) buildings where extensive restoration and reconstruction works have been undertaken during the 1980s revitalization project of the historical city of Samarra. It does not seem that any of these previous restoration projects had been carried out according to conservation ethics and international standards. The authenticity of these monuments was significantly altered by extensive restoration and reconstruction using poor quality materials, techniques and methods. These three buildings are:

- *The Great Mosque and the Malwiya minaret*: Reconstruction of the porticoes columns at the area of the open courtyard of the mosque using reinforced concrete. The external wall and the Malwiya minaret have been partially restored and reconstructed using the same materials and techniques as original.
- *The Circular basin of the Caliphal Palace*: Full reconstruction of this building with use of poor quality materials and techniques.
- *Al-Ma'shuq Palace*: The facades of the palace and the upper floor have been restored and partially reconstructed.

The overall approach to conservation at Samarra is likely to be acceptable in comparison to other sites. However, it is recommended that it would be necessary to carry out corrective measures and remedial interventions, particularly at the three monuments mentioned above. A holistic conservation approach should be developed and proposed to conserve the monuments with an attempt at ensuring that the authenticity of these buildings is retained.

3. IDENTIFICATION AND ASSESSMENT OF ISSUES

Management structure

The site unit for the protection and management of Samarra Archaeological City has not yet been set up. The actual Archaeology Inspectorate of Samarra is not efficient or operational and needs to be reinforced. The current Inspector Mr. Omar Abd- AlRazzaq Mahmoud directs a team of 16 people: 1 director (archaeologist), 2 Site supervisors, 14 guards that patrol the site.

This team is installed temporarily in the office of the Heritage Museum of Samarra which is currently under renovation. The situation of this office located at the center of the modern city of Samarra is not adapted to house a multidisciplinary site management staff. The Samarra local staff should be reinforced by setting up a technical unit to be actively re-engaged with the site activities, which can be divided with different specialized units where people from Samarra Inspectorate and from Baghdad SBAH will be working together under the direction of a Site Manager. The Site Manager will be in charge of the coordination of the conservation and management activities and should be under the direct control of a higher committee in charge of the Iraqi World Heritage sites. The effectiveness of the site management structure depends upon the quality of the technical unit which will not be just a 'caretaker', running the day-by-day management of the site, but should follow the day-by-day implementation of the conservation and management program in relation to a wide range of activities like:

- Conservation, protection and stabilization of endangered monuments;
- Development of a scientific and research program (monitoring, experimentation program);
- Development of an archaeological research program;
- Documentation of the site;
- Management of personnel and equipment;
- Promotion of the site;
- Establishment of effective cooperation with local and international partners;
- Establishment of an intense and active relationship with various local communities.

In order to ensure the full effectiveness of the site office operating, it is recommended that the existing building located at the eastern part of the Malwiya Mosque is rehabilitated. The previous SBAH headquarters building, constructed in 1982 within the framework of the archaeological revitalization project of the historical city of Samarra, was completely abandoned after the occupation of the site by the coalition forces in 2004. The rehabilitation and reuse of this building as a Center for the site staff has been already submitted by the Samarra Inspector to local and national authorities. In parallel, a request for building a new museum and site headquarters near the Malwiya Mosque has been submitted to the Salah ad-Din governorate and is currently under evaluation. The finalization and implementation of the project can be considered as a priority;

During our working meetings in Baghdad with Mr. Qais Rashed, the SBAH Chairman and in Samarra with Mr. Mahmoud Khalaf Ahmad, the Mayor of Samarra, this issue has been raised and both have confirmed their intention to provide financial assistance for this project in order to equip the site with adapted infrastructures capable of offering to the Site Management Unit the ideal conditions of work.

Factors affecting the property

- Lack of a permanent site management unit to ensure coordination between conservation, research and development of the property;
- Lack of skilled site staff;
- Lack of a comprehensive management plan in place to ensure maintenance and long term conservation of the site;
- Lack of a comprehensive conservation plan;
- Lack of preventive conservation activities;
- Lack of documentation and monitoring activities;
- Lack of permanent control and security of different monuments due to the huge dimension of the site.

The site inspection has allowed to make a first assessment of conservation conditions at the site, local site staff capacities and skills, as well as to identify strengths and weaknesses. According to the preliminary site observations and discussions with different SBAH representatives and local authorities a first list of weaknesses and strengths was prepared as following:

Weaknesses

- Lack of a site management plan
- Lack of a comprehensive long term conservation strategy
- Overall poor state of conservation of the Site
- Lack of regular maintenance and preventive conservation activities
- Lack of monitoring
- Lack of site security
- Lack of human and financial resources
- Lack of a permanent site unit
- Limited experience in the field of conservation of mud brick archaeological sites
- Lack of competencies in conservation/preservation
- Lack of historical and architectural documentation
- Lack of documentation regarding the 1980's restoration and reconstruction projects
- Presence of extensive restored buildings within the Core Zone

- Risk of an excessive urban development of Samarra city towards the archaeological perimeter

Strengths

- Full Support from the national and local authorities
- Exceptional quality of the architectural and urban ensemble
- Huge archaeological potential (80% of the site has not yet been unearthed)
- Historical and symbolical significance of the site
- Touristic potential
- Public Ownership of the Site

4. ASSESSMENT OF THE STATE OF CONSERVATION OF SAMARRA SITE

In coordination with Mr. Omar Abd- AlRazzaq Mahmoud, the site inspector of Samarra, an taking into consideration the very limited time of our mission and the considerable size of the site, priority sites were identified where emergency action and support is required. The selected sites for inspection were: the Great Mosque and its Spiral Minaret, Abu Dulaf Mosque, the Caliphal Palace, Al-Ma'shuq Palace and lastly Tell es-Sawwan. Accordingly the first assessment of site conditions will cover only these five priority sites.

1. The Great Mosque and its Spiral Minaret

- Brief description of the sector

In terms of monumental architecture, Samarra is distinguished by its mosques and palaces. The Great Mosque, with its spiral minaret al-Malwiya, is one of the best known and marks a new stage of mosque development by using a spiral minaret and a secondary outer enclosure with covered porticoes (Arabic ziyada), to provide shelter for Muslims unable to find a place in the mosque for the Friday prayer.

Built of fired brick and gypsum mortar, the Great Mosque was the largest (264m x 159m) in the Islamic World when it was constructed between 849 and 852. Its walls are reinforced by regularly spaced semi-circular towers. The walls are 10.5m high and there are sixteen gates. The mosque consists of four parts surrounding the open courtyard. The Spiral Minaret (Al-Malwiya) is the most unusual in the Islamic world. The sides of the square base are 32m long, and above five circular layers rise forming a huge spiral tower 54m high.

- Current state of conservation

The Great Mosque constitutes one of the attractions of the site and one of the exceptional monuments which have partially conserved their authenticity and integrity despite several years of neglect, 1980s extensive restoration works and military activities during the

occupation of the site by the coalition forces. This monument has been abandoned without any preventive measure to protect the standing walls and the minaret against natural erosion and human activities. It was partially restored in the 1980s as part of a large operation of restoration and reconstruction for the revitalization of the historical city of Samarra. Many significant changes have been made to this monument using intrusive methods and incompatible materials. The traces of the 1980s reconstruction project are still evident. The more visible are the reinforced concrete foundations and columns installed inside the open courtyard to reconstruct the roofed porticoes. More than 400 reinforced concrete columns constitute the intrusive infrastructure which has altered the authenticity of this valuable monument. The ambitious project for the revitalization of the historical city of Samarra, ordered by the Iraqi government, was carried out by the SBAH mostly between 1982 and 1991. Several monuments and sites within Samarra were restored or fully reconstructed and modern facilities for visitors were introduced into the centre of the archaeological zone. In addition there was major landscaping work to the great detriment of the site.

Past conservation activities can be considered as the major threat affecting the authenticity of this valuable monument, and many of them date back from 1980 restoration works. Partial reconstruction and restoration activities using incompatible techniques and intrusive materials such as concrete, cement, modern fired bricks... increased the speed of decay and altered the original characteristics of the monument. The lack of know-how and low quality of materials represent additional threats for the long-term conservation of the Malwiya Mosque. In the vicinity of the Great Mosque, two modern buildings were constructed for site facilities at the main entrance of the fenced area. To the north-west of the mosque and between the spiral minaret and the main entrance of the site a large area has been leveled and covered with concrete that was used as a car park. The perimeter of this parking area was limited by a concrete walkway.

During the occupation of the site by the coalition forces, the upper part of the Malwiya minaret was bombed in 2006 and the mosque was a place for military hostilities. In 2010, the Malwiya Minaret was restored by SBAH using the same materials and techniques as the original.

Based on the preliminary inspection of the site, carried out during the reactive monitoring mission, the Great Mosque is affected by the following decay processes:

- Poor conservation work of the monuments restored and reconstructed during the 1980s revitalization project (poor quality of techniques and materials);
- Lack of regular maintenance;
- Lack of monitoring and documentation;
- Poor site conditions and lack of site drainage;
- Decay of the wall base due to combined action of humidity and salts (undercut);
- Decay related to the incompatibility of restoration materials and techniques;

- Direct weathering of the surface and top of walls due to atmospheric conditions (rain and wind);
- Structural pathologies.

- Identification of priority interventions to be undertaken

Urgent action and corrective measures need to be undertaken to protect Outstanding Universal Value, integrity and/or authenticity for which Samarra was inscribed on the World Heritage List. As a result of the brief condition assessment study a list of actions to be implemented immediately was proposed. This will include preventive conservation activities for the Great Mosque and its surrounding. No conservation work should be permitted prior to the completion of documentation.

During the mission to the property, a list of urgent works to be implemented was established. This list covers the problem caused by intrusion of the huge number of concrete columns disturbing the area of the open courtyard of the Great Mosque and causing visual impacts on the site. Obviously, this intrusion alters the OUV of the site and all the new concrete columns should be removed without disturbing the archaeological deposits within the courtyard area. Any action to resolve this problem should be based on a technical study presenting the method statement of intervention. This list covers also different pathologies of erosion which represent the most common problems observed on similar sites. The immediate actions to be implemented are:

- Dismantling and removal of the modern concrete columns constructed inside the open courtyard of the mosque. A technical study should be prepared and submitted to UNESCO before starting the implementation of works. This technical study should specify the nature of the columns foundations, the subsurface archaeological deposits, and the stratigraphy of the open courtyard, the techniques to be used and the procedures of intervention. It is strongly recommended that all archaeological deposits should be preserved in situ and not exposed or damaged by subsequent interventions development;
- The open trenches of the concrete columns foundation have been left open for many years and represent additional conservation problems. These lower pits, inside the open courtyard in contact with the wall base of the mosque enclosure, constitute a weak point where accumulation and stagnation of rain water causes much damage. Without any drainage and without maintenance, this sector constitutes a permanent threat;
- Treatment of the surrounding environment of the monument by removing the modern concrete surface covering the car park area at the main entrance of the site and all the peripheral modern walkway;

- Improvement of drainage system inside the mosque and outside to protect the wall base and the foundation of the monument against rain water stagnation, surface runoff, water funneling, infiltration, concentration of moisture. In order to mitigate humid pathologies due to stagnation of rain water in the vicinity of the mosque, it is recommended to install a shallow peripheral drainage with slope to immediately drain standing water away from the archaeological structures. This technique is not intrusive, requires minimal intervention and there is no question of loss of authenticity as a long period of archaeological activity at the site has produced the current artificial topography;
- Improvement of evaporation conditions of underground water at the base of the walls by removing incompatible materials;
- Backfilling open trenches and deep excavations at the western and southern sectors of the Mosque.
- Capping and temporary protection of the upper part of the standing walls;
- Wall base treatment;
- Wall surface treatment.

Abu Dulaf Mosque

- Brief description of the sector

Situated to the north of the city, this mosque is similar to the Great Mosque but smaller in size. It consists of an open courtyard surrounded on its four sides by porticoes. The walls of the mosque are reinforced by semi-circular towers. The minaret is similar to that of the Great Mosque but smaller.

- Current state of conservation

Located far from the modern city in a natural landscape, this mosque has preserved its authenticity and its majesty. It should be conserved as it is with minimal intervention.

The lack of documentation from the 1980s restoration project makes difficult to conduct analysis of techniques and materials used. It is why this study was essentially based on site observation and discussion with the Samarra staff. It appears that the amount of restoration and reconstruction intervention on Abu Dulaf Mosque was limited to specific situations compared to the Great Mosque. Less changes and intrusion have been made to this monument except the restoration and partial reconstruction of the spiral minaret and some arches of the prayer hall.

- Identification of priority interventions to be undertaken

The intervention on this monument can be limited to preventive conservation activities:

- Improve the site security and control;
- Complete the documentation of the monument;
- Develop a monitoring program;
- Develop architectural and archaeological studies;
- Improve the site drainage;
- Limited intervention at the wall base to mitigate the effects of the combined action of rising damp (humidity) and salts;
- Intervention on the upper part of walls by installing protective capping and sacrificial plaster to reduce the rate of rainfall erosion;
- Treatment of the wall surfaces (re-pointing of joints between the brick rows);
- Limited structural reinforcement.

The Caliphal Palace (Qasr al-Khalifa)

- Brief description of the sector

This palace, built on the orders of Caliph Al-Mu'tasim billah, is situated on the Grand Avenue (*al-Shari' al-A'zam*), overlooking the Tigris. It is one of the largest Arab Islamic Palaces (125ha), and includes living quarters, halls, administration rooms, *diwans*, guards' barracks, and facilities for rest and recreation. It is the only example of an imperial palace from later antiquity, the plan of which completely preserved. Excavations have been carried out in the Palace since 1910, but about three-quarters of the area remains unexcavated and the western garden has been flooded.

- Current state of conservation

The standing remains of the Caliphal Palace are the Bab al-'Ammah, the formal ceremonial entrance of the palace overlooking the river which was restored and partially reconstructed, and the circular basin build below the ground surface which has been completely reconstructed using poor quality materials and techniques.

Only some part of the excavated remains of this palace have conserved their authenticity and integrity when the lower structures of the circular basin have been fully reconstructed and presented to visitors during the 1980s restoration campaigns.

The authenticity and integrity of this reconstructed monument was significantly altered. To prepare a detailed assessment of the degree of alteration it is recommended to develop a comparative study using archives and existing documentation in order to distinguish the part completely reconstructed from original structures.

- Identification of priority interventions to be undertaken

The urgent intervention on the excavated sector of the Caliphal Palace can be limited to the following conservation activities:

- Complete the documentation and the condition assessment of the excavated sector;
- Limited intervention at the Bab al-'Ammah gate by protecting the top of the vaulted passage covering the entrance to prevent infiltration of rainwater and humid pathologies affecting this building;

- Develop archaeological cleaning of the abandoned structures
- Improve the site drainage;
- Intervention on the upper part of walls by installing protective capping and sacrificial plaster to reduce the rate of rainfall erosion;
- Stabilization measures to protect and fix the wall decoration (stucco);
- Develop a monitoring program;
- Develop architectural and archaeological studies.

Al-Ma'shuq Palace

- Brief description of the sector

The remains of this palace look out over the west bank of the Tigris. Built by Caliph Al-Mu'tamid ala Allah in 876, it is the best preserved of the Abbasid palaces at Samarra. The plan is rectangular and it is sited on an artificial barrel-vaulted platform, with many courtyards and a number of rooms and halls opening on to the central spaces. The internal division is tripartite. The walls of the palace are all reinforced by round towers on rectangular bases.

- Current state of conservation

Extensive restoration and reconstruction works have been undertaken at this monument using poor quality materials and techniques. Consequently, the authenticity and integrity of this building were significantly altered.

As is the case for the other monuments inspected during our site visit, the al-Ma'shuq palace suffers from several problems of conservation:

- extensive restoration and reconstruction works;
- Poor quality of the restoration materials and techniques;
- Lack of documentation on previous restoration projects;
- Lack of regular maintenance;
- Lack of monitoring and documentation;
- Poor site conditions and lack of site drainage;
- Decay of the wall base due to combined action of humidity and salts (undercut);
- Decay related to the incompatibility of restoration materials and techniques;
- Structural pathologies
- Direct weathering of the surface and top of walls due to atmospheric conditions (rain and wind);

- Identification of priority interventions to be undertaken

To prevent further deterioration, it is recommended to prepare:

- A detailed condition assessment of this monument;
- A full architectural documentation of the site;
- Historical studies to identify precisely the reconstructed parts from original ones
- A preventive conservation plan in order to stabilize temporary the endangered structures.

Tell es-Sawwan

- Brief description of the sector

According to the historical and archaeological importance of Tell es-Sawwan site and taking into consideration the poor conditions of the excavated structures, it was decided to include the inspection of this monument in the site visit programme to discuss urgent needs in order to protect and stabilize the erosion speed of the fragile mud brick ruins. The Neolithic site of Tell es-Sawwan is located to the south of the city of Samara within the core zone. Its history goes back to the 7 Millennium BC. This site is one of the first human settlements in Mesopotamia and attests to the permanent occupation of the site of Samarra from the Neolithic period until nowadays.

The oval mound (200 meters long by 110 meters wide with a maximum height of 3.5 meters) is located on the eastern bank of the Tigris. The main mound was surrounded by a defensive ditch. The site was excavated by a team from the Iraqi SBAH in seven seasons between 1964 and 1971. A simple irrigation system discovered at this place allowed its inhabitants to cultivate various domestic varieties of cereals and leguminous plants. The principal occupation period of the site corresponds to the Neolithic painted ware period known as the Samarra period (6200–5700 BC), but the alabaster figurines that were discovered there are from the preceding period, that of the Hassuna (6500–6000 BC). The female figurines come from individual tombs, most of them of children, which were dug beneath a large rectangular house made of mud brick, which doubtless belonged to an important figure in the village.

- Current state of conservation

The mud brick walls unearthed more than fifty years ago have been abandoned without protection and no provision has been taken to allow a long term preservation of the fragile ruins. Subject to the combined factors of natural deterioration and ground humidity, the walls have been exposed to continual erosion and will disappear if no preventive measures are taken in the immediate future. The mud brick ruins are in very poor state of conservation and need to be preserved as part of the Samarra history.

The first inspection of the site has allowed to identify the following problems:

- Lack of drainage of rainwater;
- Accumulation of debris in the open excavation yards;
- Runoff erosion;
- Erosion of the wall base due to ground humidity and capillary action;
- Weathering and erosion of the upper part of walls

- Identification of priority interventions to be undertaken

- Clearing of the site and removal of vegetation ;
- Installation of a drainage system to protect the excavated area
- Capping and sacrificial mud layers to protect the top of walls.

5. Recommendations

The list of general recommendations and prioritized emergency actions to be implemented was prepared in collaboration with the State Party to complement the results already achieved by national, regional and local institutions:

1. For the sustainability and effectiveness of the conservation and management system of Samarra Archaeological City, it is important that the site unit should be installed as soon as possible. In addition, planning processes need to be undertaken to ensure the adequate tools to guide decision-making are formulated
2. The Samarra local staff should be reinforced and need to be actively re-engaged with the site activities. The site staff should be involved at every stage of the conservation and management process;
3. The Samarra Archaeology Inspectorate has been created at a lower level than is habitually for World heritage Sites. For this reason we recommend to give the Samarra Office more authority, status and responsibility as possible to implement the future Site Management Plan and to permit effective relationships with other administration authorities of the regions and with other stakeholders.;
4. In order to ensure the full effectiveness of the site office operating, it is recommended that the existing building located at the eastern part of the Malwiya Mosque is rehabilitated. The previous SBAH headquarters building, constructed in 1982 within the framework of the archaeological revitalization project of the historical city of Samarra, was completely abandoned after the occupation of the site by the coalition forces in 2004. The rehabilitation and reuse of this building as a Center for the site staff has been already submitted by the Samarra Inspector to local and national authorities. In parallel, a request for building a new museum and site headquarters near the Malwiya Mosque has been submitted to the Salah ad-Din governorate and is currently under evaluation. The finalization and implementation of the project can be considered as a priority;
5. It is recommended that SBAH integrates a multidisciplinary team (archaeologists, architects, conservators, administrators, masters and workers) dedicated to Samarra Archaeological City. This team should take an active role in the development of the site management plan, including comprehensive conservation and archaeological research programmes. It would subsequently coordinate the implementation of the prescribed actions and would seek to establish effective cooperation with local and international partners and with various local communities. For this to successfully occur, capacity building is required in site management, Planning, documentation, condition assessment, monitoring, research, archaeological excavation and implementation of conservation works. The site staff should also work closely with local and national stakeholders, including the Ministry of Culture, the State Ministry for Tourism and

Antiquities, the Ministry of Education, the Samarra municipal and Salah al-Din governorate administrations, as well as with international organizations;

6. In addition to capacity building, efforts should be made to ensure that existing references and standards for practice at the international level are made available to local and national SBAH professionals to assist them in their overall national planning for World Heritage sites and national heritage;
7. An increase in training activities to build local capacities in the field of mud brick conservation is needed;
8. Recognizing that building capacity for management can take time, it is recommended that while the management plan is being developed a comprehensive conservation plan, with priority emergency interventions is formulated. This should include the corrective measures that are needed to sustain the Outstanding Universal Value of the property and ensure that conditions of integrity and authenticity continue to be met. The State Party could submit a request for international assistance so that a clear strategy can be drawn up by a multidisciplinary and international group, as was recommended by the World Heritage Committee at its 33rd session. In addition, grants for capacity building on management and conservation should be explored.
9. Preventive conservation actions to undertake include archaeological cleanings, removal of spoil heaps, drainage, backfilling, temporary stabilization, propping and shoring of endangered structures, capping and superficial protection of walls. This program can be implemented immediately with very limited intervention on the original fabric;
10. Baseline documentation to record state of conservation and interventions is needed. A strong program of research and documentation is required to set a historical and technical database to substantiate interventions and actions to be taken in the future. This should include a general site level condition survey and documentation of each monument within the Samarra Archaeological City including architectural plans. Archaeological cleanings and excavations can be proposed as part of the documentation process. Architectural and topographical survey will include the standing monuments as well as the excavated zones and ruins. Archaeological, historical, and architectural documentation and archives (both domestic and international) need to be collected. It is also important to better understand the previous SBAH reconstruction and restoration campaigns that have taken place at the site since 1981;
11. A mandatory provision to prevent the impact of the future development of the modern city of Samarra is needed while a Management Plan is formulated. Regulatory measures should consider that any significant public works in the vicinity of the site need to be preceded by heritage and environmental impact assessments, in response to the values and attributes of the property.

12. Finally, the State Party expressed its wish to retain Samarra on the World Heritage List in Danger because of continuing unstable situation, the violations of the country's antiquities, the lack of respect for the Antiquities Law and illegal digging.

THE GREAT MOSQUE AND THE MALWIYA MINARET

Samarra Archaeological City



The current condition of the northern facade and the open courtyard of the mosque.



The the north and west facades with the Malwiya minaret.



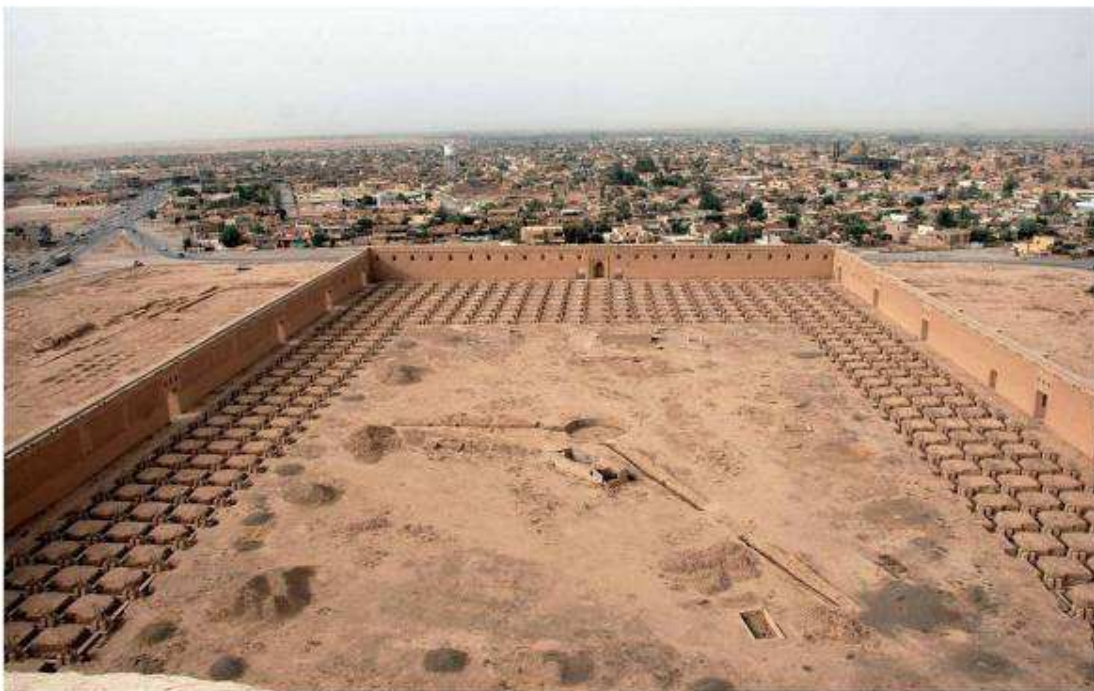
General view of the mosque and its minaret before the restoration work.

THE GREAT MOSQUE AND THE OPEN COURTYARD

Samarra Archaeological City



The open courtyard of the Great Mosque during the restoration and reconstruction work.



Extensive reconstruction works inside the open courtyard of the mosque.

RESTORATION OF THE GREAT MOSQUE AND THE MALWIYA MINARET Samarra Archaeological City



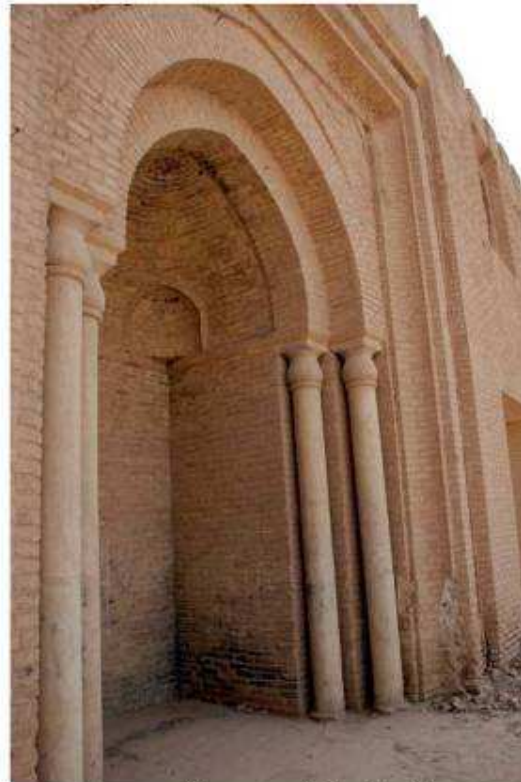
The Malwiya Minaret restored in 2010 by SBAH.



The concrete columns for the reconstruction of the portico.



The south-western restored corner.



The restored Mihrab of the mosque.

THE GREAT MOSQUE AND THE OPEN COURTYARD

Samarra Archaeological City



Foundation of the concrete columns reconstructed to roof the porticoes of the mosque.



The impressive number of the concrete columns disturbing the archaeological deposits inside the mosque.

RESTORATION OF THE GREAT MOSQUE AND THE MALWIYA MINARET Samarra Archaeological City



The facilities buildings and car park at the main entrance of the Great Mosque site.



The intrusive concrete platform and cement pavement of the new walkway.

THE GREAT MOSQUE (PATHOLOGIES)

Samarra Archaeological City



Humidity and salts pathologies, basal erosion of the Great Mosque walls.



Structural pathologies, missing of the gate lintel, north façade.

PREVIOUS ANTIQUITIES HEADQUARTERS BUILDING Samarra Archaeological City



Previous Antiquities headquarters building, constructed in 1982 abandoned after the occupation of the site by the coalition forces in 2004.



The abandoned mud brick production area.



Previous Antiquities headquarters building.

**2010 RESTORATION WORKS AT THE GREAT MOSQUE AND THE MALWIYA
MINARET**

Samarra Archaeological City



Malwiya Minaret before the restoration work.



During the restoration work.



After the restoration work.

**2010 RESTORATION WORKS AT THE GREAT MOSQUE AND THE MALWIYA
MINARET**
Samarra Archaeological City



Use of traditional materials «Djuss» for the restoration works.



Paving of the Malwiya rampe with fired brick tiles.

**2010 RESTORATION WORKS AT THE GREAT MOSQUE AND THE MALWIYA
MINARET**

Samarra Archaeological City



Great Mosque, vertical crack repair

**2010 RESTORATION WORKS AT THE GREAT MOSQUE AND THE MALWIYA
MINARET**

Samarra Archaeological City



Treatment of basale erosion due to humidity and salts.



THE CALIPHAL PALACE : THE CIRCULAR BASIN
Samarra Archaeological City



Restored building of Bab al-'Amma, the Caliphal Palace.



Humid pathologies of the vaulted gate of Bab al-'Amma, the Caliphal Palace.

THE CALIPHAL PALACE : THE CIRCULAR BASIN

Samarra Archaeological City



The reconstructed façade of the Circular Basin, the Caliphal Palace.



Architectural style and decoration of the Circular Basin, the Caliphal Palace.

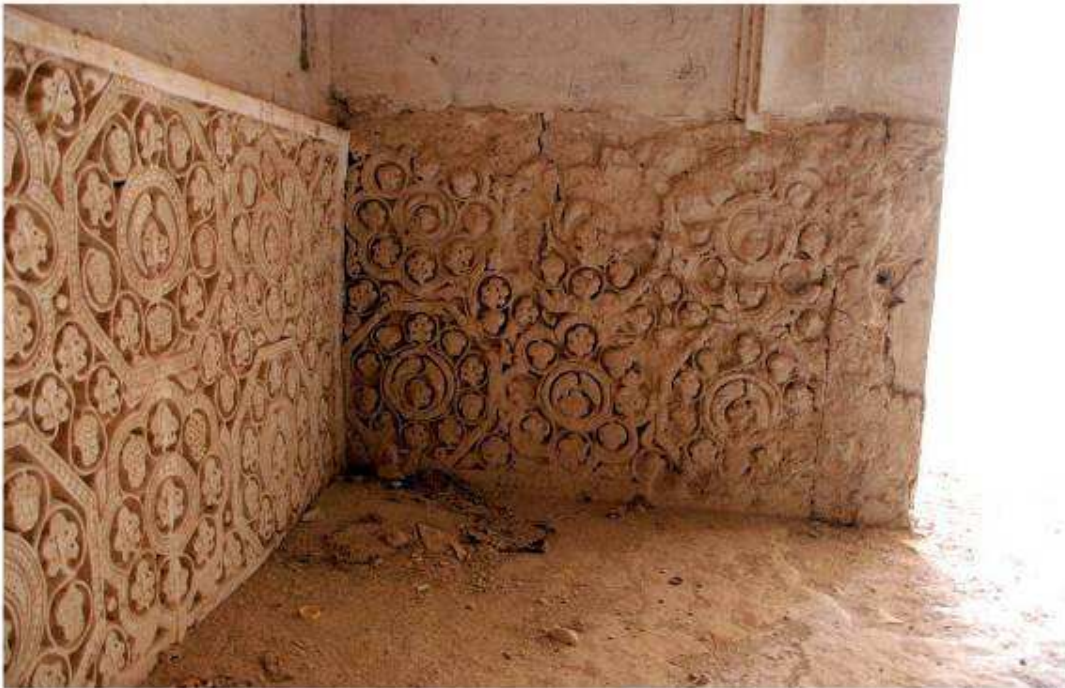


Poor quality of materials (modern fired bricks and concrete) used in the restoration of the Circular Basin.

THE CALIPHAL PALACE : THE CIRCULAR BASIN
Samarra Archaeological City



Wall base erosion due to humidity and salts.



Erosion of the stucco decoration panels.

THE CALIPHAL PALACE : THE CIRCULAR BASIN
Samarra Archaeological City



Restored walls and house decoration, the Caliphal Palace.



Restored walls and stucco decoration, the Caliphal Palace.

ABU DULAF MOSQUE
Samarra Archaeological City



General view of the Abu Dulaf Mosque, from the spiral minaret to the south.



General view of the Abu Dulaf Mosque before the restoration work.



East facade of the Abu Dulaf Mosque.

ABU DULAF MOSQUE
Samarra Archaeological City



Erosion of the exposed outer wall of the mosque.



Basal erosion and reconstructed arches of Abu Dulaf Mosque.

ABU DULAF MOSQUE
Samarra Archaeological City



Restored arches of the Abu Dulaf Mosque.



The open courtyard of the Abu Dulaf Mosque.

RETAINING WALL CONSTRUCTION STEPS

Ashur (Qal'at Sherqat)



Cement protection of the wall minaret ramp, Abu Dulaf Mosque.



Poor condition of the mihrab of the Abu Dulaf Mosque.

AL-MA'SHUQ PALACE
Samarra Archaeological City



West-south facades of the al-Ma'shuq Palace during and after reconstruction work.



West facade of the al-Ma'shuq Palace before and after reconstruction work.

AL-MA'SHUQ PALACE
Samarra Archaeological City



Reconstructed main entrance of the al-Ma'shuq Palace.



The main entrance of the al-Ma'shuq Palace before the reconstruction work.

AL-MA'SHUQ PALACE
Samarra Archaeological City



Reconstructed walls and rooms of the al-Ma'shuq Palace.



Erosion problems due to the incompatibility of materials, the reconstructed walls of the Al-Ma'shuq Palace.

TELL ES-SAWWAN
Samarra Archaeological City



Poor condition of the mud brick archaeological structures of Tell es-Sawwan.



The Tigris River and Tell es-Sawwan.



Mud brick archaeological structures of Tell es-Sawwan.

SITE VISIT
Samarra Archaeological City



Site visit and meeting with local communities



Site visit and inspection of Tell as-Sawan.

6. ANNEXES

Annex 1. TERMS OF REFERENCE

In conformity with the Decisions of the WH Committee 34 COM 7A.18 and 34 COM 7A.19 (attached) adopted by the World Heritage Committee at its 34th session (Brasilia, 2010), concerning the state of conservation of Ashur and Samarra, inscribed on the World Heritage List respectively in 2003 and 2007 and on the List of World Heritage in Danger the same years, and taking into consideration the Operational Guidelines for the Implementation of the World Heritage Convention, the Committee requested the State Party to invite a joint World Heritage Centre/ICOMOS reactive monitoring mission to visit the property to assess the state of conservation of the two sites and assist the State Party with technical guidance to address the following issues:

1. Visit the properties and meet with relevant local and national authorities, to discuss and review:
 - a) the current situation and the overall state of conservation of the properties;
 - b) the implementation of the decisions of the World Heritage Committee;
2. Assist the State Party in revising and detailing the corrective measures to be carried out in order to remove the properties from the List of World Heritage in Danger and define an approximate timeframe to this end;
3. Assist the State Party in drafting a proposal for the “Desired state of conservation for the removal of the properties from the List of World Heritage in Danger”;
4. Assist the State Party in revising the draft proposal for the “Statement of Outstanding Value” for the site of Ashur.
5. Prepare a comprehensive report according to the established format, including recommendations and an executive summary, by 30 June 2011, as well as the verbal report to be provided to the State Party and further reviewed by the World Heritage Committee at its 35th session (Paris, 19-29 June 2011).

Annex II. Itinerary and programme of the mission

Saturday, June 4th

- Departure from La Chapelle de la Tour to Istanbul via Paris,
- Arrival in Istanbul (one night in Istanbul)

Sunday, June 5th

- Departure from Istanbul to Baghdad
- Meeting at Baghdad airport with Mr. Mehdi Salih Latef, Unesco Office in Najaf and Mr. Saleh Mohammad Redha Al-Mufti, chef engineer, SBAH
- Departure to Samarra
- Meeting with Mr. Mahmoud Khalaf Ahmad, Mayor of Samarra and Mr. Omar Abd- AlRazzaq Mahmoud, Inspector of Samarra Archaeological Site, SBAH
- Site visit to selected monuments in Samarra (Grand Mosque & Al Malwya, Caliphal Palace, Abu Dulaf Mosque)
- Meeting at the Inspectorate office with Mr. Omar Abd- AlRazzaq Mahmoud, Inspector of Samarra, Mr. Saleh Mohammad Redha Al-Mufti and Mr. Mehdi Salih Latef.

Monday, June 6th

- Site visit to selected monuments in Samarra (Balkuwara Palace, Tell as-Sawwan, the Manarat Tower)
- Working meeting at the municipality with Mr. Mahmoud Khalaf Ahmad, Mayor of Samarra and Mr. Omar Abd- AlRazzaq Mahmoud, Inspector of Samarra.

Tuesday, June 7th

- Departure to Ashur
- Meeting at the site unit with Mr. Abd Jaro, Director of Ashur Archaeological Site and the Ashur site staff.
- Site visit and discussions
- Working meeting at the site unit to collect restoration and archaeological documentation.
- Departure from Ashur to Samarra

Wednesday, June 8th

- Departure from Samarra to Baghdad
- Meeting at the Baghdad Museum with Mr. Qais Rashed, SBAH Chairman, Ms Faeza Hussein Hussein, Director General of Restorations and Engineering, Mr. Saleh Mohammad Redha Al-Mufti, Mr. Omar Abd- AlRazzaq Mahmoud, Inspector of Samarra, and Mr. Mehdi Salih Latef, Unesco Office in Najaf.
- Visit of Baghdad Museum

Thursday, June 9th

- Departure from Baghdad to Paris via Istanbul
- Arrival in La Chapelle de la Tour

Annex III Composition of the mission team

The mission has been undertaken by Dr. Mahmoud Bendakir, who represented both UNESCO and ICOMOS.

Annex IV Guidelines for the development of a conservation plan

To start the preparation of the Site Management Plan and the comprehensive Conservation Program, to permit also the establishment of the Site Unit, and the re-engagement of the Samarra staff with the site activities, it could be desirable to request international assistance from the WH Fund to guide the implementation of these fundamental steps indispensable for the long-term conservation and development of Samarra Archaeological City. The development of such strategies will require a wider range of expertise and competences than the State party possess currently.

A number of key issues have been identified and there is an urgent need to start the preparation of a long-term conservation plan meeting international conservation standards for Samara Archaeological City. The priority for the State Party and the SBAH should be the creation of the Site Unit and the elaboration of the conservation plan to undertake remedial actions for endangered monuments and prevent future degradations.

The conservation plan should include:

- A comprehensive conservation strategy to preserve the OUV;
- Criteria for interventions defining consistent concepts, approaches and methods;
- A condition assessment;
- Documentation and data collection;
- Assessment of damage to the site or interference with it since its occupation by coalition forces;
- Monitoring program and site laboratory;
- Definition of the conservation / stabilization project for endangered monuments;
- Definition of an urgent preventive conservation program;
- Experimental program;
- Training program: skills, capacity building and research.

To ensure a high level and a sustainable conservation of the site, it appears very necessary to give the priority for the safeguarding of the significant monuments of Samarra site in a perspective to create a first set of examples of how to conserve fired brick and mud brick architectural and archaeological heritage.

The following have been agreed upon for the conservation strategy:

-To establish adapted conservation and stabilization methods to meet international standards for world heritage sites. This ensures:

- Consistent concepts and methods of intervention;
- Standards for conservation and stabilization works;
- Quality and high skills for the implementation of the conservation works;
- Worldwide references and best available knowledge and standards in this field.

- To develop local resource and skills to undertake the necessary conservation and stabilization works. This will be achieved via a training program on the site and various workshops on similar sites;

- To establish a national network of qualified craftsmen and certification program for “traditional know how” in this field;
- To develop scientific program and archaeological research;
- To encourage regional and international collaboration with institutions specialized in this field to share experience and expertise.

DETAILED ACTIONS AND STEPS OF THE CONSERVATION PLAN

1. Documentation and Data Collection

Documentation and data collection will include:

- Research and collection of existing documentation (references);
- drawing a first list of potential individuals and institutions to help in the process of collect of existing documentation;
- Collection of documentation of past conservation/restoration/reconstruction works (assessment of the 1980s restoration practices);
- Evaluation of the 1980s restoration project (conclusion and new orientation).

2. Architectural Documentation and Study

Detailed recording and documentation of the important sites and monuments is needed to understand the historical background and the architectural values of the site. Archaeological, historical and architectural studies need to be developed in order to analyze the construction methods, techniques and the material composition. This will include:

- Description of Samarra monuments:
 - Archaeological description;
 - Historical interpretation;
 - Documentation of Samarra building techniques and materials;
 - Information on local traditional materials, building practices and know-how.
- Architectural and topographical survey:
 - Collect architectural documentation (achieves);
 - Cartography;
 - Topographical Survey;
 - Architectural survey (Plans, sections, elevations... technical details).
- Survey and research on traditional building techniques and materials:
 - Identification of Samarra building practices (traditional know-how);
 - Traditional building materials;
 - Construction techniques: mud brick work, fired brick work, plaster work, decoration work...
- Elaboration of technical “Passport” for individual monument by giving precise information and detailed description:
 - Name and n° of the monument and date of the listing
 - Location;
 - Brief historical description (period of construction, period of excavation, different construction phases, last conservation interventions...);
 - Function (total surface, levels, phases of occupation, Organization, internal layout...);
 - Physical description:
 - Construction system (foundation, floor, walls, arches, vaults, roof...)

- Building materials
- Special features
- Decoration

3. Condition assessment and mapping of threats and erosion processes

Identification and analysis of major threats and decay processes:

- Observation
- Site conditions, major problems, threats and erosion processes
- State of conservation of the monuments and ruins
- Detailed mapping of pathologies and risk zones:
 - Zone in good state of conservation
 - Zone at risk
 - Zone with ruined structure
 - Zone with archaeological remains

Diagnosis (Identification of pathologies and their causes)

- Exposition (wind, rain water, ground humidity, insect, human activities...)
- Elevations (façades)
- Base of the walls
- Vertical walls (adobe masonry, fired brick masonry)
- Top of the walls
- Other structural elements (columns, gallery, arches, vaults...)
- Roof
- Terrace
- Parapet
- Plasters and decoration
- Specific features

4. Monitoring program and site laboratory

A monitoring program of general conditions (physical, natural, environmental, human) is necessary to set up a scientific data base needed for the elaboration of conservation methods and treatment. The main objective of the monitoring program is to extend the understanding of the general conditions of the site and to establish a scientific interpretation of all the threats and decay processes affecting the property. The constitution of a scientific database is necessary to orient priorities, methods and techniques of intervention. This will include:

- Recording water table fluctuation, humidity and salts content, wall hygrothermal behavior, and local climate:

This fundamental step of the conservation project will require several years, but will permit to:

- Set-up a systematic monitoring of the parameters which can be quantified (physical, chemical, climatic, environmental and human);
- Propose adapted protocol and methods of monitoring; Identify a possible test site with the view of future research work (experimentation zone);
- Study, quantify and modelize the water movements in archaeological structures in function of the prevailing environmental conditions;
- Study and modelize the significant structural pathologies;
- Collect information needed for the understanding of erosion processes;
- Quantify the damage and significant changes occurring;

- Provide a scientific backing to all conservation works;
- Set-up references to evaluate the efficiency of conservation methods and techniques;
- Control all activities taking place in Samarra Archaeological City;
- Define priorities for future actions.

The local climate and the wall hydrothermal behavior must be monitored in situ.

Other measurements:

- Measurement of salts and humidity variation of the wall at different heights and different depths, using an apparatus measuring the conductivity of the material “Humitest”;
- Collection of samples from the selected walls to evaluate the water content in weight;
- Collection of samples from the selected walls to measure the salts content at different heights and depths.

5. Site laboratory and Experimentation

Proposing a site laboratory to develop analyses in order to identify materials, composition and characterization and to undertake site experimentations.

The main objective of the experimental program is to test materials and techniques on a small scale first, without touching the most outstanding elements of the site.

This program will answer the need for a proper conservation of archaeological structures and standing monuments. It will also serve to fine-tune the proposed specifications, phasing, schedules and budgets and to adjust the conservation techniques and the mode of operation, as well as to define more precisely the conditions required for ensuring quality work (climate, equipment,...). This program will lead to first immediate results that will be paramount for the success of the planned conservation and restoration projects.

The experimental program will permit to:

- Share experience;
- Train the local conservation staff (architects, contractors, conservators, masters, masons...);
- Build capacities and skills;
- Improve capabilities of all the stakeholders involved to answer the preservation, restoration, and temporary stabilization methods and needs;
- Define an area for “practical workshop” for training and experimental program;
- Upgrade traditional building materials and techniques;
- Improve conservation methods;
- Experiment the proposed methods and solutions on a small scale first;
- Select adapted equipments and tools.

7. Preparation of the Conservation/Restoration Project

Define ethic, rules and standards for conserving World Heritage sites

In accordance with the Operational Guidelines for the Implementation of the World Heritage Convention and the international charters, such as the International Charter for the Conservation and Restoration of Historic Monuments and sites (Venice Charter 1964) and the International Nara Documentation on Authenticity 1994, a number of criteria are essential in determining technical solutions to conserve Samarra Archaeological City. The proposed interventions should respect the following criteria:

- Being non-intrusive: Knowing the historical, symbolic, technical, aesthetic, physical, natural and environmental values is essential in order to respect the site, and to ensure a soft harmonization between the old and the new structures. However, if interventions should be minimal, additions or repairs should remain visible so as to distinguish the new from the original fabric and should have minimal impact on the original.

- Ensuring reversibility: Conservation interventions should be easily reversible without damaging the original structure to reduce the risk of uncontrolled disorder taking place after the intervention. However, if this principle guarantees a safe approach, it requires a long experimental phase.

- Using of original Materials and traditional techniques: The proposed intervention should make use of the same materials as the ones originally used.

Preparation of all documents needed before starting the implementation of the project. These include execution drawings and complete the technical specifications, in addition to the bill of quantities.

Steps for the preparation of the conservation project

- Documentation
- Condition survey (with possibly structural monitoring)
- Definition of the conservation / restoration concept
- Technical drawings and details
- Preparation of the technical specifications
- Bill of quantities
- Implementation phases
- Supervision
- Monitoring

8. Preparation of site interpretation and presentation

Preparation of materials for interpretation and presentation of the monuments and sites to be conserved, as part of an overall strategy of site presentation. Promotion of the cultural significance of the site and enhancing the visual integrity of the protected area by the development of an interpretation policy which should minimize intrusive infrastructure in the landscape and its impact on the archaeological site.

9. Capacity Building and Ongoing Training

To ensure sustainability of the conservation project, a wide spectrum of competencies is needed in the field of world heritage site management, conservation, expertise knowledge, capacity building, excavation, research... The development of skills in the field of conservation has been discussed and proposed as a particular priority for the implementation of the conservation plan.

Continued capacity building and training for the site staff (architects, engineers, masters, workers) from the State board of Antiquities and Heritage (SBAH) will reinforce the fields of capacity related to the management, conservation and development of the Samarra site. Once trained, the SBAH will be responsible for testing, monitoring and implementing conservation activities.

10. Ongoing security and regular maintenance of the site

A program of regular maintenance and security of the site should be prepared and implemented on a permanent basis. According to the large dimensions of the site and the considerable number of

monuments, security and control of the site is an important issue. Clear guidelines for inspections to be carried out over the area of the core and buffer zones should be developed to prevent pressure and encroachment and to anticipate the need for rapid intervention.