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**ORGANISATION DES NATIONS UNIES
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**CONVENTION CONCERNING THE PROTECTION OF THE WORLD
CULTURAL AND NATURAL HERITAGE**

**CONVENTION CONCERNANT LA PROTECTION DU PATRIMOINE
MONDIAL, CULTUREL ET NATUREL**

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Item 7 of the Provisional Agenda: State of conservation of properties inscribed on the World Heritage List and/or on the List of World Heritage in Danger

Point 7 de l'Ordre du jour provisoire: Etat de conservation de biens inscrits sur la Liste du patrimoine mondial et/ou sur la Liste du patrimoine mondial en péril

MISSION REPORT / RAPPORT DE MISSION

**Historical Monuments at Makli, Thatta (Pakistan) (C 143)
Monuments historiques à Makli, Thatta (Pakistan) (C 143)**

19-22 April 2016

This mission report should be read in conjunction with Document:
Ce rapport de mission doit être lu conjointement avec le document suivant:

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**REPORT ON THE
JOINT WORLD HERITAGE CENTRE/ICOMOS
REACTIVE MONITORING MISSION TO THE WORLD HERITAGE PROPERTY
“THE HISTORICAL MONUMENTS AT MAKLI, THATTA”, PAKISTAN
19-22 April 2016**



A view from the North at the monuments of Samma period(©UNESCO/J. Han)

Junhi Han (World Heritage Centre) and Jonathan S. Bell (ICOMOS)

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EXECUTIVE SUMMARY AND LIST OF RECOMMENDATIONS

The Historical Monuments at Makli Hill, Thatta World Heritage property is a rich example of monumental funereal architecture and gravesites that represents a unique breadth of artistry, architectural and decorative ingenuity, and provides a rare lexicon of the development of artistic expression, architectural form and technology of the region within a cohesive site. Unfortunately, long times of neglect, inadequate management and conservation of the site have gravely impacted the integrity and experiential quality of the historic necropolis. It is imperative that actions are taken immediately to protect the site from continued damage and prevent further loss of its Outstanding Universal Value (here after referred as OUV).

A number of significant monuments lie crumbling without any ongoing condition monitoring or efforts to protect them from the elements or arrest further deterioration. As a result, the property is in an active state of decay resulting in the loss of main attributes of its OUV. Without immediate corrective actions and evidence of improved management practices and expedited emergency stabilization and conservation planning, the property will continue losing its OUV, as the decay process affecting the remaining historical structures gets accelerating with time, resulting further loss of major attributes of integrity and authenticity of the property.

Despite drastic calls over the last 10 years from WHC/ICOMOS reactive monitoring missions dispatched by the World Heritage Committee to establish a clear monitoring protocol for the tomb of Jam Nizzamuddin that includes condition recording, ongoing documentation, and placement of crack monitors, neither the Government of Pakistan, nor the Government of Sindh, which took over the care of the site in 2011, have taken any action. It is of vital importance that condition monitoring be undertaken and investigations into the stability of the underlying soil be tested (recommendations below).

The Government of Sindh indicated that a Master Plan for the site is nearing completion and presented the principal components to the Joint Mission. While acknowledging the usefulness of a master plan, taking into account the current state of the property, it is crucial that a conservation and management plan for the property should be immediately developed without waiting for the finalization of the master plan in order to address various crucial issues that need to be undertaken at short and mid-term levels. The management plan should include disaster response or emergency management plan, prioritize action items, and allocate necessary funding and staff resources for implementation as soon as possible

Signs of encroachment are abundant, from continued unsupervised burials throughout the site and near highly significant monuments to the construction of new buildings within the site and continued use of largescale government warehouses and other structures within the buffer zone. It is recommended that the Government of Sindh acknowledge the significance of Makli as a living site, review and identify appropriate ongoing uses, and explore options for continued burials (e.g. within designated areas within the buffer zone or away from significant parts of the site) while discontinuing inappropriate uses. Without question, increased security of the site is necessary, including 24-hour stationing of guards that regularly inspect the site and supervise visitor activities.

The Government of Sindh indicates having a sizable budget for the management and conservation of the site, but the Joint Mission saw no evidence of activity at the site paid for by the government. Although resource allocations may be adequate, it is difficult to determine if and how these resources are being used to protect the site or stabilize collapsing monuments. The signs of neglect and abandon greatly endanger the OUV of Makli and threaten its survival.

In light of this, the Joint Mission is of view that the attributes that sustain the Outstanding Universal Value of the property could have been well under great potential or ascertained threat, if there is no irrefutable evidence of progress made in both the management of the site and conservation efforts of individual monuments in the immediate future.

For this purpose, a set of recommendations, required for completion by March 2017, has been elaborated by the Joint WHC/ICOMOS Reactive monitoring mission in order to address the crucial and pressing issues of the site management and monuments conservation at the property. Several of them have been already recommended by the previous reactive monitoring missions of 2006 and 2012 respectively, but few have been addressed.

The recommendations/actions that need to be undertaken on an urgent basis by March 2017 are as follows:

Management:

1. Establish immediately a management plan including a systematic monitoring system as well as a plan for capacity building of the staff of the department of archaeology of the Government of Sindh without waiting for the finalization of the Master Plan.
2. Station 24-hour security around the site. Regularly inspect the most important areas and monuments 4 times throughout the day and 2 times during the night. Monitor visitors and prevent inappropriate uses and unsanctioned vehicular access. Record and report all activities on the site and prevent any new burials and illegal dumping.
3. Complete remaining stretch of barrier wall to arrest encroachment from the west side of the property, adopt officially the boundaries identified in 2013, and submit a minor boundary modification to the World Heritage Centre for the approval of the World Heritage Committee.
4. Consult with local communities in order to determine the most appropriate way of accommodating new burials and consider allocating an area dedicated to this use as well as a mechanism for seeking and obtaining permission. Continued supervision of the selected area and the process is recommended. The requested management plan should acknowledge and address living heritage value of the property and should institutionalize consultation with local communities.
5. Develop and begin implementation of a plan for regular trash removal. Train site staff to collect trash when they see it. Determine most appropriate locations for trash receptacles according to visitor management planning and design and install unobtrusive bins within reach of visitor circulation paths (see Visitor Infrastructure).

Conservation:

6. Install on an urgent basis at least three environmental monitors/weather stations (to be installed in each of the monuments clusters such as the Sammas, Arkhun/Tarkhan, and Mughal) to collect data on fluctuations in temperature and relative humidity that may serve as factors of deterioration in critical monuments, as well as to record wind speed and directions, as well as rainfall and other data.

7. Install Avongard tell-tales (crack monitors) ¹ on cracks of concern in the principal monuments, including tomb of Jam Nizzamuddin and Jamia Masjid. Photograph all locations before and after installation and establish a regimen of monitoring that begins aggressively (every three months) and slows down (annually) if no change is recorded. If change is noted, more frequent monitoring (monthly) should be undertaken.
8. Conduct a systematic soil investigation/geo-physical survey in the vicinity of the Mausoleum of Jam Nizzamuddin. Resulting data, along with data from a crack monitoring and a condition assessment of the structure, should provide the basis for a conservation plan of the monument;
9. Stabilise all elements in danger of collapse, including in the Jamia Masjid, Jam Nizamuddin, as well as in a number of other monument groups. Prior to commencing work on each monument, develop: 1) detailed condition mapping and documentation; 2) characterization of original building fabric (e.g. stone and brick masonry, mortar, plaster, tile and glaze); 3) history of interventions to understand the series of subsequent work on each building and how that may affect development of successful interventions; 4) design of compatible intervention materials, which must be informed by analysis of original fabric mentioned in #2; 5) specifications for interventions that include instructions for fabrication of intervention materials and their application and implementation; and 6) plan for monitoring and maintenance after interventions are completed
10. Document fallen original fabric and store it carefully in sanctioned storehouses, and establish a documentation procedure for this purpose. The procedure should include the following steps: 1) photograph materials as found in situ; 2) label and photograph individual elements; 3) store materials in dedicated storehouse/magazine; and 4) create and maintain an inventory of all collected items.
11. Carry out on an urgent basis full documentation of the existing architectural surface decoration such as remaining glazed tiles, which are important attributes of the OUV and have already been largely lost, and establish a condition report to be accompanied by a damage assessment.
12. Determine how best to resume and complete the conservation work at the Sultan Ibrahim mausoleum, taking into account its critical state both at the structural and surface level including the domes and surface architectural decoration.

Requiring Immediate Consideration and Implementation by 2019

Management:

1. Develop and install consistent signage with visually engaging and informative content at each of the principal monuments and along the main access road in front of the four principal monument groupings (Samma, Arkhun, Tarkhan, and Mughal). Together, the signage should provide a narrative about each of the periods represented at the site, the principal structures and their significance, building materials and architectural styles, and conservation of the monuments and the site. Signage should be visually unobtrusive and

¹ Tell-tales can be purchased for roughly US\$20 ea. Record sheets can be downloaded from the Avongard website for free (<http://www.avongard.com/products/category/1/tell-tales/P-00001/standard-tell-tale>).

provide content at least in Urdu, and English. It is also possible to integrate QR codes and website links on select signs to provide additional resources for interested visitors.

2. Determine the most appropriate locations for dispersed visitor facilities (e.g. bathrooms, rest stops, shelters, trash bins, information kiosks) and design and install unobtrusive infrastructure that is accessible from principal areas but that does not result in visual intrusion.
3. Using the new inventory as a baseline, investigate the history of burials and develop a more accurate estimation of burials at the site and request an amendment to the statement of OUV, if applicable.
4. Consider the best options for the future of structures within the buffer zone and develop a five-year plan for phasing out or diminishing current use and relocating necessary activities outside of the buffer zone.

Conservation

5. Establish clear standards and mechanisms for continued supervision of ANY AND ALL interventions carried out at the site, whether by Sindh Government staff or third parties. Ensure all regulations are followed and proposals for work submitted, reviewed, and approved PRIOR TO ANY WORK AT SITE COMMENCING. It is also recommended that the Government of Sindh establish an independent Technical Advisory Committee to review and provide commentary on intervention proposals to inform Government decisions. This is particularly important since it appears that the Government of Sindh does not have sufficient staff with the necessary expertise to assess the appropriateness and effectiveness of interventions, nor does it have in place any specific mechanisms for adequate decision-making.
6. Develop a process for the prioritization of work on site and related allocation of budget to ensure the most critical needs are met first. Priorities should be determined by significance and condition, such that the most significant monuments in the worst conditions are treated in preference to those of lesser significance and/or in a less severe state of conservation.
7. Prioritize principal monuments according to process developed above. Plan and begin to implement stabilization work to prevent collapse or loss of structural and decorative elements. The process should follow the basic steps outlined above (see Intervention Design and Implementation), but take priority over other work because of the severity of conditions and resulting threat of damage or loss. Continued triage and prioritization of need should be practiced at the site to identify and address, even temporarily, critical conditions. This approach should similarly be practiced as part of disaster response (see Risk Preparedness).
8. Create extensive baseline photographic documentation of each principal monument that can be used to monitor visible changes in the structures (e.g. loss of material, cracks, discoloration, biological growth). All photographs should include size and color scales² for reference.
9. Use baseline photography for annual monitoring to determine changes in principal structures

² Reliable, inexpensive scales can be ordered from the International Federation of Rock Art Organization (IFRAO) at auraweb@hotmail.com. 100 laminated paper scales are available for AUD100 and should last for years with care.

and gravesites of significance. These photographs should also be used in disaster response inspections (see Risk Preparedness section).

10. Create extensive baseline photographic documentation of each principal monument that can be used to monitor visible changes in the structures (e.g. loss of material, cracks, discoloration, biological growth). All photographs should include size and color scales³ for reference.
11. Use baseline photography for annual monitoring to determine changes in principal structures and gravesites of significance. These photographs should also be used in disaster response inspections (see Risk Preparedness section).
12. Develop and implement an appropriate drainage system that evacuates water away from the monuments and off the site. This system should be unobtrusive, but sufficient for a 50-year rain event.

Capacity Building

13. Increase expertise of the Department of Archaeology by urgently developing, providing a short and mid-term training programmes for ALL STAFF of the Department of Archaeology, and hiring experts whenever necessary, and develop a detailed roster of responsibilities and schedule of activities for each staff member. Training should include best management practices, safety protocols, visitor management, inspection and survey, and emergency response appropriate to the responsibilities of each staff member.
14. Identify and/or hire key staff with the necessary skill sets to generate, manage, and maintain digital information relevant to the maintenance and protection of the site and provide them with the requisite computers, software, and associated tools.
15. Multiple staff should be aware of and facile in decision-making processes and share in responsibility of ongoing conservation work and management practices.
16. Establish a documentation center at the site with appointed, capable staff to manage it and provide access to site staff, researchers, and others, as deemed appropriate.

³ Reliable, inexpensive scales can be ordered from the International Federation of Rock Art Organization (IFRAO) at auraweb@hotmail.com. 100 laminated paper scales are available for AUD100 and should last for years with care.

1. BACKGROUND TO THE MISSION

1.1. Inscription History

The property: Historical Monuments at Makli, Thatta (C 143) was inscribed on the World Heritage List under Criterion (iii) at the 5th session of the World Heritage Committee in 1981 (Sydney, Australia)⁴ under the name of Historical Monuments of Thatta.

The nomination dossier⁵ submitted in 1979 described two monuments groups as proposed World Heritage property: one on top of the adjoining Makli Hill, and the other one in the City area, down in the Valley. However, this same nomination dossier has an addendum only in French⁶ which provides further information on the proposed property, but only for the monuments at Makli Hill, while the ICOMOS evaluation included the two groups of monuments, as follows: *“the site preserves, in a state of exceptional integrity, an imposing monumental complex with the remains of the city itself, in the valley and especially those of necropolis, massed at the edge of the Makli plateau, covering a distance of ca. 12 kilometres.....The effect of the grand mosque of Sha Jahan , with its complex of blue and white buildings capped by 93 domes, is absolutely unique.....ICOMOS expresses the wish that adequate measures be taken to ensure the preservation of the archaeological site and the monumental complex of Thatta, both the city and the necropolis”*⁷.

In light of this, the Reactive Monitoring mission carried out in 2006 proposed to clarify what has been inscribed in the World Heritage list. Taking into account that the addendum of the nomination dossier contained only the monuments at Makli Hill and that the Mosque of Shah was added to the Tentative List of Pakistan in 1993, it was concluded that only the monuments at Makli Hill should be considered as the World Heritage property. Accordingly, the State Party submitted an official request to change the name of the property. The World Heritage Committee approved this name change for this property, which henceforth became ‘Historical Monuments at Makli, Thatta’ in English / ‘Monuments historiques à Makli, Thatta’ in French⁸.

1.2. Statement of Outstanding Universal Value

The following Statement of Outstanding Universal Value has been elaborated and adopted by the World Heritage Committee at its 36th session (St Petersburg, 2012).

⁴ CONF003.VIII.15

⁵ The nomination dossier, document consisting of 5 pages along with an annex and signature by Dr. N.A. Baluch, Director, National Institute of Historical and Cultural Institute, Islamabad. with the registration C 143 submitted by Government of Pakistan.

⁶ Dated 18 October 1980 (2 pages and signed by Muhammad Ishtiaq Khan, Director, Department of Archaeology and Museums).

⁷ Excerpt from the ICOMOS evaluation (October 1980)

⁸ Decision: 33 COM 8B.1

Historical Monuments at Makli, Thatta (Pakistan)

Retrospective Statement of Outstanding Universal Value (RSOUV)

Nomination Submission Number: 143

Date of Inscription: 1981

Criterion: iii

Date of RSOUV: 2012

Brief synthesis

Near the apex of the delta of the Indus River in Pakistan's southern province of Sindh, is an enormous cemetery possessing half a million tombs and graves in an area of about 10 km². Massed at the edge of the 6.5 km-long plateau of Makli Hill, the necropolis of Makli– which was associated with the nearby city of Thatta, once a capital and centre of Islamic culture – testifies in an outstanding manner to the civilization of the Sindh from the 14th to the 18th centuries.

The vast necropolis of Makli is among the largest in the world. Kings, queens, governors, saints, scholars, and philosophers are buried here in brick or stone monuments, some of which are lavishly decorated with glazed tiles. Among the outstanding monuments constructed in stone are the tombs of Jám Nizámuddín II, who reigned from 1461 to 1509, and of Isa Khan Tarkhan the Younger and of his father, Jan Baba, both of whose mausolea were constructed before 1644. The most colourful is that of Diwan Shurfa Khan (died 1638). The unique assemblage of massive structures presents an impressive order of monumental buildings in different architectural styles. These structures are notable for their fusion of diverse influences into a local style. These influences include, among others, Hindu architecture of the Gujrat style and Mughal imperial architecture. Distant Persian and Asian examples of architectural terra-cotta were also brought to Makli and adapted. An original concept of stone decoration was created at Makli, perhaps determined by the imitation of painted and glazed tile models. The historical monuments at the necropolis of Makli stand as eloquent testimonies to the social and political history of the Sindh.

Criterion iii: The historical monuments at Makli, Thatta testify in an outstanding manner to the civilization of the Sindh region from the 14th to the 18th centuries. The site preserves in a state of exceptional integrity an imposing monumental complex comprised of the remains of the necropolis, massed at the edge of the Makli plateau and covering an area of about 10 km².

Integrity

Within the boundaries of the property are located all the elements and components necessary to express the Outstanding Universal Value of the property, including the tombs and graves located in the necropolis of Makli. Nevertheless, a number of the historical monuments have reached an advanced stage of degradation. The integrity of the property is threatened by the significant decay caused by the local climatic conditions (earthquakes, variations in temperature, winds containing salts and humidity, heavy rains, natural growth) and the shift of the riverbed. In addition, encroachments and vandalism threaten the site, and damage and loss by pilferage have assumed colossal proportions.

Authenticity

The historical monuments at Makli, Thatta, are authentic in terms of their forms and design, materials and substance, and locations and setting. Because elements of the property are in an advanced state of decay and disintegration, however, the authenticity of the property is

threatened, particularly concerning the materials and forms of the monuments. Unless scientific action is taken to reduce the threats to the property, irremediable damage will be caused.

Management and Protection Requirements

The historical monuments at Makli, Thatta, are protected under the Antiquities Act, 1975, promulgated by the Federal Government of Pakistan. The Culture Department of the Provincial Government of Sindh is responsible for managing the property. The site is staffed by a curator, archaeological conservator, technical assistant, supporting staff, and attendants. Funding comes from the annual Regular Budget of the Ministry of Culture and other Government programmes.

Sustaining the Outstanding Universal Value of the property over time will require developing and implementing an emergency action plan to address urgent measures necessary for the security and the stabilisation of structures; developing and implementing a comprehensive management Plan for the property; defining the precise boundaries of the property and the buffer zone; preparing a condition report for all monuments and tombs; taking appropriate measures to stabilise the tomb of Jam Nizamuddin II; and implementing an overall monitoring programme.

1.3. A living heritage value of the property

Although it was not mentioned in the original nomination dossier or in the Statement of Outstanding Universal Value, a living heritage value of the property can strongly be observed at Makli. A great number of people come to venerate their favourites saints buried at Makli, and new burial sites are erected.

Indeed, the origin of the foundation of Makli as a holy place for worship and burial goes back to Sheik Hammad Jamali, a saint, poet and scholar in Lars (Lower Sindh), and to his royal devotee, Jam Tamachi, the son of the first Samma ruler at the end of the 14th century. Prior to the legendary victory of the alliance between Jamali and Tamachi, the people of Thatta used to bury their dead in the cemetery of Pir Patho, which belonged to the Sufi Silsila of pirs of the Sultans of Delhi in Sindh. The legend says that Hammad Jamali helped Jam Tamachi, who was held captive at the Sultanate of Delhi following a plot by his uncle Jam Juna, escape from Delhi and reconquer the throne in Thatta, Lars. To show his gratitude, Jam Tamachi offered large amount of money to Jamali, who asked him to build a mosque instead, which became Masjid Jamia at Makli⁹.

The emergence of Makli as a revered place of worship and the main graveyard of Thatta also heralded a change in the power structure in Sindh. On both religious and political levels, Thatta became independent from the influence of the local northern rulers belonging to the Sultanate of Delhi and thus firmly established itself first as the capital of Lars, and then gradually as that of the whole of Sindh.

Next to Masjid Jamia, the mausoleum of Jam Tamachi and the *Khanqah* of Jamali constitutes, along with the mausoleum of Jam Nizamuddin, the core of the Samma cluster. South of the grave of Jamali, a number of the graves belonging to the disciples of Jamali. The original

⁹ 'The Jewel of Sindh-Sama Monuments on Makli Hill', Suhail, Laro, Yasmeen, Lari, Oxford University Press Karachi 1997

nomination dossier mentions about half million of graves within the Makli necropolis and this figure clearly demonstrates that Makli has long been a holy place where people not only venerated but also wanted to be buried in. Nowadays, the site still remains a living heritage site where rituals and rites are performed according to the region's old customs. A great number of pilgrims arrive every day at Makli for various purposes such as offering veneration and seeking advice from their favourites saints buried at Makli, but also to bury their relatives who wished to be laid to rest near their favourite saints. Consequently, this living heritage value, although it is not included within the OUV of the property, should be taken into account in the management of the property.



A photo: Tomb of Mai Makli (©UNESCO/J. Han):

Mai Makli (Makli Mother) is one of the most venerated figures at Makli. According to the legend, Mai Makli was a pious woman who lived in the outskirts of Thatta and used to pray for the citizens of Thatta. When the great Tughlaq Sultan of Delhi invaded Thatta in 1367, he could not make a headway, thanks to the pray of Mai Makli. There are many legends of Mai Makli for her protecting the people of Thatta¹⁰. The date of the tomb's construction is unknown, however, it seems that it already existed when the property was inscribed on the World Heritage List in 1981. This tomb was erected against the eastern wall of the Masjid Jamia in the northern edge of Samma cluster. This kind of addition might be acceptable only by acknowledging the living heritage value of the World Heritage property Historical Monuments at Makli.

1.4. Integrity issues raised in the ICOMOS evaluation report

The evaluation report at the time of the nomination specifically mentions the extremely harmful salt borne air and its effect on brick structures, and underlines that adequate measures should be taken to ensure the preservation of the site from this damaging climate.

¹⁰ The Jewel of Sindh-Sama Monuments on Makli Hill', Suhail, Lari, Yasmeen, Lari, Oxford University Press Karachi 1997

1.5. Examination of the State of Conservation by the World Heritage Committee and its Bureau and Background of the current reactive monitoring mission

In 2005, the World Monuments Funds, a New York-based NGO, listed the property 'Historical Monuments at Makli, Thatta' as one of the '100 Most Endangered Sites' on its World Monuments Watch List. The NGO justified its listing owing to Makli's poor state of conservation, affected by the severe local climate conditions such as rain and wind. The report also highlighted that the site suffers from loss of groundwater and topsoil erosion caused by the shift of the riverbed.

Consequently, at its 29th session (Durban, 2005), the World Heritage Committee decided to examine the state of conservation of the property and requested the State Party to submit its report for the examination of the Committee at its 30th session (Vilnius, 2006). At its 30th session, the World Heritage Committee requested that a reactive monitoring mission be dispatched to the property to examine its state of conservation as a matter of emergency.

The joint World Heritage Centre/ICOMOS reactive monitoring mission carried out in November/December 2006 made a set of recommendations that needed to be immediately implemented, including a concrete Action Plan for stabilisation work for the mausoleum of Jam Nizzamuddin, which was not only leaning but also cracking. At its 31st session, the Committee requested the State Party to implement the recommendations made by the 2006 Reactive Monitoring mission and submit a report on the progress accomplished, including the urgent measures for the stabilisation of the mausoleum Jam Nizzamuddin, for examination at its 33rd session in 2009. For this purpose, the UNESCO Office in Islamabad provided US\$28,000 of financial assistance to the Government of Pakistan.

In 2009, the State Party submitted a report without providing the requested information on the progress made with the implementation of the recommendations. At its 33rd session (Seville, 2009) the World Heritage Committee requested the State Party to provide copies of the Master Plan, which was reportedly being prepared, for review by the World Heritage Centre and the Advisory Bodies and asked the State Party to make progress with the implementation of the following:

- a) Overall monitoring programme,
- b) Management plan,
- c) Report on the condition of all monuments and tombs,
- d) Prioritized emergency intervention plan, and
- e) Identification of the boundaries of the property and its buffer zone.

The Committee also requested the State Party to make progress with the soil investigations and stabilization of the tomb of Jam Nizzamuddin recommended by the 2006 Reactive Monitoring mission, and submit a report for the examination of the World Heritage Committee at its 35th session (UNESCO, 2011).

In 2011 the State Party submitted a very similar report to the one of 2009, informing the Committee that a Master Plan and a Management Plan were being prepared.

At its 35th session (UNESCO, 2011), the World Heritage Committee regretted the little progress that had been made in the implementation of earlier decisions and the lack of information regarding conservation works. It also expressed its concern about the serious gradation of the property and the lack of security measures to ensure the protection of the property, and urged the State Party to develop an emergency action plan, to adopt the Master Plan and to develop

the management plan. It further requested that appropriate measures be carried out to stabilise the Tomb of Jam Nizzamuddin. The Committee further decided to dispatch a second reactive monitoring mission to the property.

The resulting 2012 joint UNESCO/ICOMOS Reactive Monitoring mission noted that hardly any of the recommendations made by the 2006 reactive monitoring mission had been implemented, nor had the Master Plan or the Management Plan been finalized and implemented. The 2012 mission, however, argued that due to the devolution of Pakistan's services-related public sectors that took place in 2011, time should be given to the provincial government to carry out appropriate conservation works and equip itself with a proper management system for the property. Furthermore, the 2012 Mission took note of some of positive developments, such as the fact that the Government of Sindh, due to the lack of capacity, established a new strategy of outsourcing various urgent and necessary conservation works by establishing a Memorandum of Understanding with a Karachi-based NGO, Heritage Foundation. The 2012 mission was informed that this NGO was entrusted by Government of Sindh with undertaking a preliminary study on conservation of the Tomb of Jam Nizamuddin and with preparatory and survey work for the establishment of clear boundaries, including a buffer zone, as a basis for management and planning.

The World Heritage Committee, at its 36th session in 2012, requested the State Party to implement the recommendations made by the 2012 Reactive Monitoring mission and to submit a report on this for examination at its 37th session in 2013.

However, the report received from the State Party in 2013 did not include any information on the progress accomplished with the implementations of these recommendations and consequently, the World Heritage Committee, expressing its concern that significant threats to the Outstanding Universal Value of the property had yet to be fully addressed, requested the State Party to invite an ICOMOS/ICCROM advisory mission to the property to assist the State party to develop a comprehensive programme for conservation and stabilisation of the mostly threatened monuments and to define the objectives of a Management Plan for the property to address critical issues, including disaster risk management and public use, among others. The State Party was also requested to submit a report on the implementation of these for the examination of the Committee at its 39th session in 2015.

Unfortunately, the report received in 2015 did not address the concern expressed by the Committee, and there has been no invitation of the recommended advisory mission. Ultimately, the World Heritage Committee, at its 39th session, decided to dispatch the third Reactive Monitoring mission to the property to assess the state of conservation as a whole and the progress made by the State Party on the crucial issues that have been identified and for which action was requested by the Committee at several of its previous sessions.

1.6. Justification of the mission

At its 39th session (Bonn, 2015)¹¹, the World Heritage Committee, after expressing its concern over the slow progress of works in view of the significant threats to the Outstanding Universal Value (OUV) of the property, requested that the State Party invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property, to review the state of conservation, and to assess the progress of the implementation of the decisions made by the World Heritage Committee at its previous sessions. This includes analysis whether there are

¹¹ 39 COM 7B.70

ascertained or potential dangers to the Outstanding Universal value of the property which would warrant its inscription of the List of World Heritage in danger. The full decision of the Committee is attached in Annexure 2.

2. LEGAL AND INSTITUTIONAL POLICY FOR THE PRESERVATION AND MANAGEMENT OF WORLD HERITAGE PROPERTY

2.1. Protected Area Legislation

The property 'Historical Monuments at Makli, Thatta' is protected under the Antiquities Act of 1975, and Excavation and Exploration Rules of 1978, promulgated by the Federal Government of Pakistan. Difficulties in the implementation of the legislation and Rules have been encountered in the past due to lack of adequate capacity, neglect, unclear management structure and frequent changes in the national authorities.

In April 2010, the 18th Amendment to the Constitution of the Islamic Republic of Pakistan was adopted. Consequently, as of June 2011, the responsibility for the conservation and management of all cultural and natural heritage sites were handed over to each of Provincial Government, including all of the six World Heritage properties in Pakistan. This means that the relevant Provincial Governments are the sole authority at administrative and financial levels for the management of these World Heritage properties.

While the Government of Punjab has since made an amendment to the Antiquities Act by promulgating a provincial legislation to protect the heritage sites in the Province of Punjab, the Government of Sindh has not yet made any amendments to the Antiquities Act. As a new provincial law has not yet been established, the federal legislation continues to be applied in the Province of Sindh for protection of cultural and natural heritage sites including two World Heritage properties, namely the Archaeological Remains of Moenjodaro and Historical Monuments at Makli, Thatta.

2.2. Institutional Framework

With the devolution of Pakistan's services-related public sectors that took place in 2011, the Historical Monuments at Makli, Thatta World Heritage property was placed under the custody of the newly-founded Directorate of Archaeology under the Culture Department, Government of Sindh.

The Mission is of the view that the devolution of cultural heritage sites to the provincial governments took place without a preparatory phase, which would have granted the provincial governments including the Government of Sindh some time to build its own capacities to deal with appropriate conservation and management of various cultural heritage sites, in particular World Heritage properties. The present Mission observed a clear lack of capacity in dealing with the Monuments at Makli Hill, a fact that was also repeatedly stated by the relevant officials of the Government of Sindh, who confirmed that while the allocated budget is adequate, there is no capacity to deal with conservation issues. The present capacity of this newly-created directorate is insufficient to professionally run the Directorate of Archaeology, being the custodian of more than 1,200 monuments in the Province of Sindh.

The Mission understood that against this background, the Government of Sindh established an outsourcing strategy to deal with crucial issues surrounding the conservation of the Makli World Heritage property by signing a Memorandum of Understanding (MoU) with *Heritage Foundation* a Karachi-based NGO. This strategy seemed to work well, especially given that this NGO has worked on the establishment of boundaries of the property and its buffer zone (which still need to be submitted to the World Heritage Committee for its examination and approval) and successfully raised funds from Germany and the USA for the conservation of two important monuments within the property. However, in view of a series of recent political developments between this NGO and the Government of Sindh, it remains to be seen whether this outsourcing strategy can continue or not. Nonetheless, it is clear that in parallel to such a strategy, significant efforts must be deployed by the Government of Sindh to develop provincial-level capacities to ensure the adequate conservation and management of the property.

In conclusion, since the devolution of cultural property to provincial level that took place in 2011, significant gaps exist as far as appropriate provincial infrastructure and adequate capacities to deal with the protection and management of the property are concerned.

In addition, the Federal Government of Pakistan is accountable to the World Heritage Convention, although it does no longer play a direct role in the conservation and management of the six Pakistani World Heritage properties. In view of this, it would be desirable that the Government of Pakistan, jointly with the Provincial Governments, elaborate a special system to manage its six World Heritage properties in which several layers of responsibilities can be exercised both by the Federal Government but also by the Provincial Governments. This would be particularly critical for provinces where there is a very little expertise or institutional capacity to deal adequately with the protection of cultural property. Recently, at the request of the Federal Government, UNESCO handed over a case study on how other States Parties with a federal system manage their World Heritage properties. This included examples of management systems in several States Parties where federal government and the relevant provincial governments share the responsibilities arising from World Heritage status equally, thanks to the specific legislation protecting their World Heritage properties.

Furthermore, Paragraph 15 of the *Operational Guidelines* stipulates that 'States Parties are encouraged to bring together their cultural and natural heritage experts at regular intervals to discuss the implementation of the Convention' including, among others, the identification of cultural and natural heritage sites found within their territory, which would allow to harmonize the Tentative List at the national level and to foster the establishment or development of national or regional training centres to build capacities for the protection, conservation and presentation of heritage at national level. An overarching general policy and strategy to build each province's capacity to appropriately conserve, manage and protect not only the World Heritage properties, but also any heritage of regional and national importance, can only be initiated at the national level. It would therefore be appropriate for the Federal Government of Pakistan to introduce this overarching general policy and strategy by providing a platform which would allow the development of provincial and national capacities for the conservation and management of cultural and natural heritage sites, including the World Heritage properties in Pakistan.

2.3. Management structure

There is no established management plan as such, consequently no monitoring system. A master plan and a management plan have been under preparation since 2009, according to the State Party's reports, yet it does not appear that they have ever been finalized. The State Party's 2012 report indicates that the Government of Sindh initiated the creation of a Master Plan, and the Joint Mission was informed that it is being finalized.

However, this Master Plan, being a land use plan which scope goes beyond the conservation of the property, should not be confused with a management plan. The currently being finalized master plan does not include a management plan including emergency intervention system. The establishment of a comprehensive management plan does not need to wait for the finalization of the Master Plan and should therefore be established as a matter of urgency and implemented with immediate effect.

Such a management plan should clearly define the role of each officer stationed at Makli, along with their day-to-day tasks. As the site stretches over 10km² with several hundred historical structures, a system for sub-division into different clusters is suggested, with individual supervision and conservation units. It would be important to subdivide the large site into 5 or 6 sub-units and provide each with an individual inventory system (reference) and an individual management structure consisting of one engineer or an architect, foremen and trained labourers. Each cluster should have its own list of actions, e.g. made according to the core priorities.

3. IDENTIFICATION AND ASSESSMENT OF ISSUES / THREATS

3.1. Site Management

The lack of management of the Historical Monuments at Makli is a point of grave concern to the Joint Mission, given that the site appears to suffer from abandonment and neglect. Most of the activity observed at the site was unfortunately some form of unsupervised and/or inappropriate use, such as recent burials, construction of new tombs, and aspects of veneration. Although the Government of Sindh has hired consultants to develop a Master Management Plan for the site, which includes promising elements and approaches, there has been NO PROGRESS on management and maintenance on the site itself since the 2012 RMM.

Current management practices are insufficient for the maintenance and protection of the site and must improve dramatically and immediately to protect the site from further degradation and ensure that stakeholder use is appropriate and does not further undermine the site's authenticity or integrity, thus diminishing its recognized OUV. For instance, the Government of Sindh states that Makli is not a living site despite evidence that local communities practice ongoing veneration of certain tombs, continue to bury deceased loved ones at the site, and perform certain ritualistic acts without any supervision. Additionally, evidence of recent illegal dumping on the site underscores the severe state of security and management and strengthening the feeling that the site suffers from abandonment and neglect. Without clear, noticeable progress in maintenance and management, continued deterioration of the property and its monuments, as well as denigration of the attributes which underpin its OUV are certain.

Boundary and Buffer Zone

Maps were provided to the Joint Mission that indicate a clearly surveyed and defined boundary and buffer zone, as was requested in the 2012 RMM report. A new wall meant to define the buffer zone and prevent encroachment along the west side of the site was only half completed by the time of the Joint Mission visit (see Figure 1). According to Archaeology Director Qasim Ali Qasim, all funds are exhausted for the current fiscal year, so the completion of the wall will not be possible until next fiscal year. A number of large government offices and warehouses are sited within the buffer zone on the inside of the recently built wall. The Government of Sindh should consider the best options for the future of structures within the buffer zone and develop a five-year plan for phasing out or diminishing current use and relocating necessary activities outside of the buffer zone.



Figure 1. End of partial boundary wall built. Notice the wall stops at a partially paved path that provides access to the buffer zone. According to Government of Sindh staff, the wall sits on the outside of the buffer zone in an effort to arrest encroachment that has occurred on the west side of the site. ©UNESCO/J.Bell

Security and staff

There is a lack of any visible security or supervision of visitors at the site, despite Sindh Government records that indicate 14 *chowkidar* or guards on staff. The Joint Mission encountered no security staff stationed at dispersed locations around the site, nor is there any infrastructure, such as shelters or small buildings for their comfort and safety. Sindh Government officials stated that 33 staff are dedicated to Makli, but no evidence of their ongoing work or general maintenance efforts was apparent. Sindh officials claim that there are plans to train some younger staff members, but this appears to be only for professional staff. There also appears to be little attention paid to succession planning, given the impending retirement (June 2016) of the current Archaeology Director, Qasim Ali Qasim, and a clear lack of capacity on the part of the Government of Sindh to provide adequate protection to the site.

Site Inventory

As part of the Master Plan under development, the site elements have been inventoried and mapped, as requested in the 2012 RMM report. The site inventory includes unique identification codes for each element and measured drawings for the larger structures and monuments. Although this is evident of some progress in the understanding of the site, two concerns came to light. The first relates to the quality of the survey itself. Unfortunately, the site mapping and survey has not geo-referenced its work or tied into any government cadastral mapping network, which is standard practice to ensure the mapping is linked to its surroundings and can serve to protect the site from adjacent planned development or link it to necessary emergency access roads, utilities, and the like. The second concern relates to the site's OUV and the count of

burials at the site. The inventory identifies only 10,993 burial sites, although the statement of OUV highlights that the cemetery is the site of some 500,000 burials. While it is understood that many of these sites include multiple burials, this count implies that the statement may be off by as much as an order of magnitude. This should be investigated.

Site Encroachment

As evidence of the poor security or supervision on the site and of ongoing encroachment, a number of unsanctioned activities occurred immediately prior to and during the site visit. An article in *Dawn*¹² cited illegal dumping that occurred on April 19 near the tomb of Sultan Ibrahim and documented unsanctioned use of large construction vehicles amidst the historic monuments (see Figure 2). During the site visit, the Joint Mission observed at least two separate new burials that included unsupervised circulation of numerous motorbikes as well as digging of graves amidst historic gravesites (see Figures 3, 4). One of the mission members observed a number of funerals with the establishment of new burials each time of the visit. Furthermore, according to the local people, there are new burials almost every day at Makli. The Mission also observed a great number of new burials both at the properties and in the buffer zone.

In addition to the activities witnessed by the joint Mission, there was evidence of a recent fire near historic structures (see Figure 5) and recent burials marked by new tombs (see Figures 6, 7).

The joint Mission considers that, although the 'living' aspect of the property is not formally recognised and relevant authorities are not aware of it, the property could continue to serve as a living site, allowing veneration of a number of saints buried there, as well as its use as a modern-day burial site. Indeed, the identity and significance of the site as a living site should be recognized and addressed in the Master Plan, but also at a long-term level in the in the Statement of OUV.

In view of the realities of daily life in Makli, which local communities still view as a holy place and where they continue to bury their loved ones, the relevant authorities should consult with representatives of local communities in order to discuss and determine the best way to continue this living practice.

In consultation with the local communities, the Department of Culture of the Sindh Government might consider allocating an area within the buffer zone or another area adjacent to the site as a new burial ground. For this purpose, it will be necessary for the Government of Sindh to determine a mechanism by which communities can request to make use of this new dedicated site, such as registration of new burials, and to see how these practices can be monitored. The procedure would need to be sensitive to the level of education of local communities (e.g. by providing assistance filling out forms and explaining regulations and requirements).

However, other types of encroachment should be summarily disallowed. This would include any sort of dumping, construction of unsanctioned structures unrelated to the management of the site, and any other activities that are not reflective or supportive of the site's OUV.

¹² <https://www.dawn.com/news/1253367>



Figure 2. Image of illegal dumping that appears in Dawn on April 21. Note scaffolded tomb of Sultan Ibrahim in the background (from the Dawn Newspaper)



Figure 3. Ongoing burial and funeral with group of participants in the background next to structure with graffiti. In the foreground, parked motorbikes used by funeral participants. ©UNESCO/J.Bell



Figure 4. Left. Participants at a burial adjacent to historic structures. Note the motorbikes and cars in the area and the number of people involved. This event was a surprise to the Sindh Government staff accompanying the Joint Mission. ©UNESCO/J.Han



Figure 5. Right. Evidence of a recent fire burned adjacent to the plinth of an historic gravesite. The small area affected suggests this was a controlled fire purposely lit by someone on the site. This activity surprised the Sindh Government staff accompanying the Joint Mission. ©UNESCO/J.Bell



Figure 6. Left. A recent burial site adjacent to the oldest Samma era structures at the site with rubble wall enclosure. ©UNESCO/J.Han



Figure 7. Right. Recently constructed tombs located adjacent to the oldest Samma era structures at the northern end of the site. The deteriorated stones in the foreground are fallen from the Samma period Khanqah Shaikh Hamad Jamali. ©UNESCO/J.Bell

General care for site and cleanliness

The site is liberally littered with trash of all types and it appears that there is little concerted effort to remove trash (see Figure 8). This appears to be the result of little concerted effort to keep the site tidy as well as few trash receptacles present on the site. On the whole, the site appears unkempt and neglected, except for the southern main entrance to the site and a few areas adjacent to some of the most famous structures.



Figure 8. Neglected gravesites littered with trash and debris that reflect the general condition of the site. ©UNESCO/J.Bell

Drainage

Although much of Makli is elevated, the need exists to create an integrated system to evacuate rainwater and wastewater from the site, but there is no evident drainage system in place. The Master Plan currently being finalized by the Sindh Government has integrated a site drainage system that is tied into visitor walkways, but this does not integrate channeling of rainwater from monuments into this system.

Visitor infrastructure

There is little infrastructure on the site that provides consistent access and information to visitors. The main access road within the site is only paved for part of the length of the site. Lighting and electricity appear only to be present along this path (see Figure 9). There are no bathrooms or other visitor facilities on the site, except at the entrance. The Master Plan under development proposes locations for certain facilities spread throughout the site.



Figure 9. Lighting along the principal road near the southern end of the site and the tombs of Mirza Isa Khan Tarkhan and Shurfa Khan. Recently restored tombs are also visible in contrast to those in need of stabilization and conservation. ©UNESCO/J.Bell

Interpretive signage is minimal to non-existent, with some informative panels available at the entrance (see Figures 10, 11) and at the tomb of Sultan Ibrahim to present the ongoing conservation work (see Figures 12, 13). These are bilingual, with some materials presented in English. All of this signage appears to have been developed by a third party, Heritage Foundation. Most structures have no signage, but there are some signs that appear to be from an earlier period and provide only name and date in Urdu and English (see Figure 14).

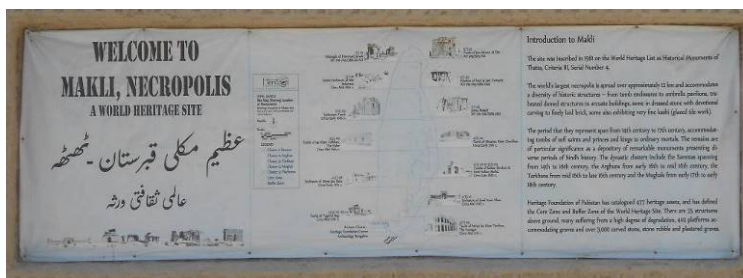
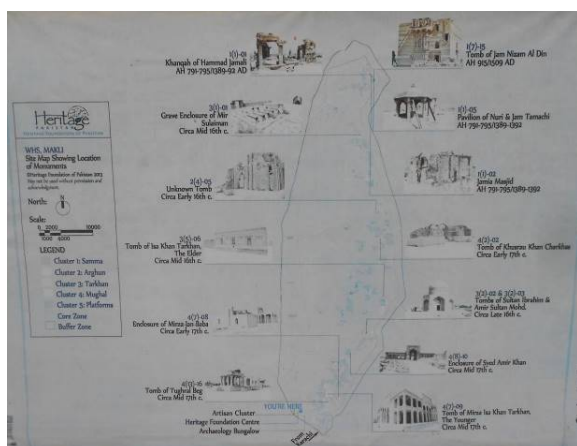


Figure 10. Signage at the entrance to the site. Note that only the name of the site and its status as World Heritage Site appear in Urdu. The rest of the sign is in English. ©UNESCO/J.Bell



Risk preparedness

There is no disaster response or emergency management plan in place at the site. The Master Plan in preparation addresses only possible relocation sites for communities displaced by floods and provides no protocol for visitor evacuation, inspection of monuments, and integration of emergency responders in the case of disaster.

Data Management and Archives

Sindh officials indicated they have collections of photographs and conservation records stored at the Department of Culture, Tourism and Antiquities headquarters. The Joint Mission was able to review a selection photographs dating to the 50s and 60s, however it is unclear how these are used and who has access to them. The large amount of data generated over the year and during recent efforts at development of a Master Plan require computers, software (e.g. AutoCAD, GIS, database, Adobe Photoshop), and the skills to organize, manage, and analyze for the purpose of informed decision-making. It was unclear to the Joint Mission what digital tools and expertise is available to the Department. Sindh officials discussed intentions to create a documentation center on or near the site, but the timeline and parameters for this were unclear to the Joint Mission.

Budget Allocations

The Government of Sindh also informed the Joint Mission that the operating budget for the site, exclusive of staff salaries, totaled roughly US\$300,000 per annum, totaling over 1 US\$ million since 2012. Despite these sizable budget allocations, the Joint Mission found little evidence of recent or ongoing work and was left questioning how these funds were spent.

4. ASSESSMENT OF THE STATE OF CONSERVATION OF THE PROPERTY

4.1. Conservation of Monuments

Unfortunately, there is little evidence of active protection of the principal monuments at the site carried out by the Government of Sindh. Calls for monitoring and conservation plan development in the 2006 and 2012 RMM reports have not been heeded and the only signs of ongoing conditions assessment and conservation planning are at the tombs of Sultan Ibrahim and Jan Baba, both of which are projects of a third party NGO. Given the deplorable condition of many of the most important monuments, it is essential that the Government of Sindh act to establish a regimen of regular condition monitoring that must be preceded by a baseline documentation, using the measured drawings that were developed as part of the Master Management Plan and photographs. Monitoring should include installation of such integral tools as tell-tales (crack monitors) to identify active settlement and environmental monitors (RH, T, wind velocity) to document and determine environmental factors of deterioration. Given that a large part of the site's OUV is based on the integrity of key monuments, including intricate surface decoration and carving, the ongoing loss of these features due to lack of protection and stabilization of crumbling elements is a clear threat to the site's status as a World Heritage Site.

Tomb of Jam Nizzamuddin

Despite drastic calls over the last 10 years from UNESCO and joint RM Missions to establish a clear monitoring protocol for the tomb of Jam Nizzamuddin that includes condition recording, ongoing documentation, and placement of crack monitors, neither the Government of Pakistan, nor the Government of Sindh, which was charged with the care of the site in 2011, have taken

any action. Even when recognizing the sudden change in site management in 2011, it is impossible to explain why none of these actions have been taken over the past years. The differential settlement of the structure and undermining through loss of subsoil are effectively shearing the building in two, resulting in the open stepped cracking between the stone masonry elements (see Figs.15-17). That infills in these cracks date from British times, according to Archaeology Director Qasim Ali Qasim, and that there is additional widening reveal two things: 1) that movement in the structure is continuing, and 2) that there has been no effort to address the cleaving masonry in modern times.

Although the Master Plan for the site proposes some theoretical approaches to the stabilization of the building, most of the necessary investigations to determine the feasibility of such approaches have yet to be carried out, namely geotechnical studies of the soil and its characteristics. The Joint Mission also expresses concern for the proposed approach of injection piles, presented by the Master Plan's consultants, given the archaeological character of the site and the need to ensure the protection of the unexcavated archaeological heritage prior to any possibly destructive interventions.

The Joint Mission reinforces the recommendations of the 2012 RM Mission report to develop baseline condition recording for the monument, install Avongard tell-tales (crack monitors)¹³ and monitor regularly to determine the rate and direction of any movements, and develop a conservation plan for the stabilization of the monument and its ongoing protection from the elements. These efforts are essential and should be carried out immediately to avoid additional damage to this most significant of structures at the site.

¹³ Tell-tales can be purchased for roughly US\$20 ea. Record sheets can be downloaded from the Avongard website for free (<http://www.avongard.com/products/category/1/tell-tales/P-00001/standard-tell-tale>).



Figure 15. Left. The differential settlement of the tomb of Jam Nizzamuddin requires crack monitoring with tell-tales to determine if movement of the building continues and the rate at which it occurs. Such tools coupled with regular monitoring may signal decohesion of subsoil or other changes that may contribute to calamitous loss of the structural integrity. Note infill pieces in the open cracks that apparently date to the British period.
©UNESCO/J.Bell



Figure 16. Center. The retaining wall on the east side of the tomb of Jam Nizzamuddin was constructed in the 1990s in an effort to stabilize the structure suffering from differential settlement due to the erosion of subsoil. Although this structure is often cited as the most significant at Makli and the Government of Sindh expresses great concern over its structural stability, there has been no effort to monitor the building or stabilize it since this intervention.
©UNESCO/J.Bell



Figure 17. Right. Intricately carved balcony and decorative element showing signs of detachment from the rest of the structure. This requires regular monitoring and may benefit from temporary stabilization as well as protection from the elements.
©UNESCO/J.Bell

Condition monitoring

There is no condition monitoring conducted at the site. Significant structures in critical condition require ongoing monitoring to determine if deterioration is active, the rate of change, and the possible mechanisms of deterioration. Of utmost importance is monitoring of cracks on principal monuments. Additionally, the 2012 RMM called for the installation of environmental monitors to record temperature, relative humidity, precipitation, and wind velocity, all of which contribute to the deterioration of the monuments. The Joint Mission supports and reiterates this recommendation and calls for immediate deployment of environmental monitoring dataloggers to this end. Such monitoring further provides crucial information for prioritization of work and development of necessary interventions or preventive measures (see Figures 18-21).



Figure 19. Left. The extreme weathering of the Khanqah Shaikh Hamad Jamali requires photographic and weather monitoring to determine the rate of change and understand the mechanisms of deterioration to inform the design of effective protective measures. A weather station should be installed in the vicinity to collect wind velocity and precipitation data. ©UNESCO/J.Bell



Figure 18. Right. Monitoring the movement of the Jamia Masjid is crucial to the protection of its extant internal arches. Monitoring may help signal changes in the subsoil or structure that may hasten collapse. Emergency stabilization of the arches should be considered, though this requires additional study and careful implementation. ©UNESCO/J.Bell



Figure 18. Left. Use of tell-tales was observed only on the tomb of Jan Baba, currently undergoing research and monitoring by a third party NGO. Note the temporary shelter above providing protection from precipitation. This practice should be implemented at other monuments, particularly those with weathered stone or exposed gypsum (gach) plasterwork that is highly susceptible to damage by water. ©UNESCO/J.Bell

Emergency Stabilization

Many of the historic structures have elements that are in danger of collapse or that show signs of active settlement that is damaging to the building fabric. When discussing these examples,



Figure 19. Right. The fragile condition of many buildings with partial arches and domes, loose and falling masonry, exposed plasterwork, and extant glazed tilework call for regular photographic monitoring to document ongoing loss and exacerbated structural weakness. Stepped settlement cracks require monitoring with tell-tales. ©UNESCO/J.Bell

Sindh Government staff were often aware of the challenge, but appeared incapable or unwilling to take precautionary measures. However, earlier shoring and other types of emergency stabilization is present on the site dating from the 70s (Jamia Masjid), 80s (Isa Khan Tarkhan), and 90s (Jam Nizamuddin) with no subsequent efforts to prevent movement or collapse in those or other buildings (see Figs. 22-24). The lack of monitoring (see Condition Monitoring) contributes to poor understanding of conditions and/or effectiveness of existing shoring, etc. Additionally, there appears to be no clear prioritization of monuments on the site either in terms of significance or condition.



Figure 22. Left. Steel I-beam Props placed at Jamia Masjid date from the 1970s. Since then, no structural interventions have been carried out though anecdotal evidence suggests continued movement. The lack of crack monitoring has made it impossible to determine if movement continues and at what rate. ©UNESCO/J.Bell



Figure 20. Right. Brick masonry pillars constructed during the 1980s at Isa Khan Tarkhan to support the upper floor while replacement stone pillars were constructed. Apparently, the replacement structural members have been installed and the temporary shoring is no longer necessary, but it has never been removed. ©UNESCO/J.Bell



Figure 21. Right. Despite examples of imminent collapse, like the fragile arches and partial dome with plaster of Lali Masjid, there is no ongoing effort to carry out emergency stabilization of structural components or surface decoration on any monuments at the site. ©UNESCO/J.Bell

Displaced Building Fabric

Original building fabric that has been lost from historic structures litters the site, sometimes sitting in piles near the structures, other times scattered throughout (see Figs. 25, 26). This fabric includes highly decorative components, such as carved stone and glazed tiles, that contribute greatly to the OUV of the World Heritage Site. Currently, there is no inventory of elements that have fallen from structures and no storage facility in which to keep these elements for later restitution, scientific analysis, or as museum exhibit pieces. The lack of inventory and protection of original fabric most likely contributes to the anecdotal evidence of theft at the site and the irreparable damage to the OUV of the site as a result of loss.



Figure 22. Left. Intricately carved stone elements from the Khanqah of Shaikh Hamad Jamali lie on the ground where they have fallen undocumented and uninventoried. These elements are both structural and decorative and representative of the artistry of the Samma period, as well as key attributes of the OUV of the site. Although proper protection through removal to a controlled storage facility could help to preserve their condition, they remain exposed to the elements that irreparably damage them through erosion and abrasion. Without adequate documentation, the technological and aesthetic value of these elements is forever lost. ©UNESCO/J.Bell



Figure 23. Right. Intact decorative tiles lie amidst masonry fragments and trash on site. The loss of these significant glazed elements represents the ongoing loss of site integrity and diminution of its OUV, which is linked in part to the refined artistry and aesthetic of the monuments that integrate central Asian-style decorative tiles. ©UNESCO/J.Han

Intervention design and implementation

The Sindh Government has identified 13 monuments of significance in need of structural stabilization and plans to develop and implement conservation projects for them over the next year. Although the Government insisted they had drafted conservation plans for each of the monuments, the work presented to the Joint Mission was only at the level of preliminary study, including basic measured drawings of each building, general photography, and generic conservation strategies. A number of important details are still lacking and the Joint Mission has expressed concern that the intended timeline is unrealistic and potentially threatening to the monuments.

At the time of the Joint Mission, there was no evidence of any ongoing work, temporary or otherwise, except at two monuments: the tombs of Sultan Ibrahim and Jan Baba. Both of these projects were being carried out by a third party NGO based in Karachi and funded by the United States Ambassadors Fund for Cultural Preservation and the German Government, respectively. While the work at the Monument of Jan Baba seemed progressing well, the conservation work at the mausoleum of Sultan Ibrahim got stopped in February last. It would be important to resume and continue the conservation work at the Sultan Ibrahim mausoleum as earliest as possible for the sake of the monument.

Only two examples of recent (2015) conservation efforts by the Government of Sindh were described to the Joint Mission: restoration of a series of gravesites near Sultan Ibrahim and partial masonry repair within Lali Masjid. In both cases, the work was glaringly inappropriate.

1. On the gravesites, individual tombs were reconstructed and plastered in stark white lime without any indication of what portions are original or new interventions (see Fig. 27). Based on the understanding of the Joint Mission, there was no documentation of the condition prior to conservation or during the intervention process. It was also unclear why resources were dedicated to these gravesites when so many monuments of great significance are in critical condition and actively crumbling.
2. At Lali Masjid, staff integrated visually incompatible infill masonry (see Figs. 28, 29). Bright red bricks were set in stark white lime mortar, which leached and stained the new intervention and adjacent original fabric. Oddly, the intervention was only applied to part of the structure, though there was significant basal loss on all walls, suggesting structural weakening and vulnerability. There was no documentation before or during the interventions and no overall conservation plan that linked these interventions to a condition assessment of the building or other intended interventions. Additionally, there was no effort to characterize the physical, chemical, or aesthetic properties of original bricks and mortar prior to developing interventions.



Figure 24. Recently reconstructed and replastered gravesites adjacent to the tomb of Sultan Ibrahim. The reconstruction approach is questionable without adequate documentation of the graves and careful recording of the process and distinguishing of historic fabric and new intervention material. The use of stark white lime wash without addition of aesthetic color tempering to ensure the work is visually compatible with the character of the site is inappropriate. Additionally, if information about these graves and their owners was known, there is no interpretation provided. The allocation of resources to this work is highly questionable given the state of conservation of many far more significant structures within the site of Makli. ©UNESCO/J.Bell



Figure 25. Left. Recent masonry infill carried out in Lali Masjid highlights the inappropriate use of visually incompatible materials, like bright red bricks and pure lime. No materials analysis has been conducted to determine the physical and chemical characteristics of the original fabric and inform the fabrication of intervention materials to ensure compatibility.
©UNESCO/J.Bell



Figure 26. Right. Additional infill is visible in the building interior. However, the fragile exterior walls in the foreground have not been stabilized and continue to crumble and lose original fabric. It is hard to imagine why stabilization was not carried out in these areas, which would have greatly contributed to the structural stability as well as arrested continued loss of historic masonry and adjacent plasterwork. Note the large amount of engraved graffiti present on the historic plaster.
©UNESCO/J.Bell

5. CONCLUSIONS AND RECOMMENDATIONS

The World Heritage Site of Makli Tombs is a rich example of monumental funereal architecture and gravesites that represents a unique breadth of artistry, architectural and decorative ingenuity, and provides a rare lexicon of the development of artistic expression, architectural form and technology of the region within a cohesive site. Unfortunately, inadequate management, maintenance, and conservation of the site and its numerous elements have gravely impacted the integrity and experiential quality of the historic cemetery. It is imperative that actions are taken immediately to protect the site from continued damage and prevent further loss of its OUV. These approaches include not only improved security and monitoring, but also consideration of how best to respect living values of the site in coordination with local stakeholders.

A number of significant monuments lie crumbling without any ongoing condition monitoring or efforts to protect them from the elements or arrest further deterioration. As a result, the site is in an active state of decay resulting in the loss of many aspects of its OUV. Without immediate corrective actions and evidence of improved management practices and expedited conservation planning and emergency stabilization, the Joint Mission is convinced the site will continue to deteriorate and suffer losses that will diminish its OUV. As a result, the Joint Mission recommends that the site be placed on the List of World Heritage in Danger in 2017 if there is no irrefutable evidence of progress made in both the management of the site and conservation

efforts of individual monuments. It is imperative that all efforts follow international standards and integrate careful planning, transparent and documented decision-making processes, and effective implementation.

In an effort to support the work of the Government of Sindh and provide the WHC with clear indicators and performance measures, a number of specific recommendations for improved management, effective conservation, and informed decision-making are included below. These recommendations are divided into two categories: 1) those that require immediate implementation and have expected outcomes by 2017 to avoid inclusion on the List of World Heritage in Danger and 2) those that should be implemented over a longer-term, but are equally pressing and should show irrefutable signs of progress within the coming years.

Recommendations

Requiring Completion by 2017

Management:

1. Establish immediately a management plan including a systematic monitoring system as well as a plan for capacity building of the staff of the department of archaeology of the Government of Sindh without waiting for the finalization of the Master Plan.
2. Station 24-hour security around the site. Regularly inspect the most important areas and monuments 4 times throughout the day and 2 times during the night. Monitor visitors and prevent inappropriate uses and unsanctioned vehicular access. Record and report all activities on the site and prevent any new burials and illegal dumping.
3. Complete remaining stretch of barrier wall to arrest encroachment from the west side of the site, and adopt officially the boundaries identified in 2013, and submit a minor boundary modification to the World Heritage Centre for the approval of the World Heritage Committee.
4. Consult with local communities in order to determine the most appropriate way of accommodating new burials and consider allocating an area dedicated to this use as well as a mechanism for seeking and obtaining permission. Continued supervision of the selected area and the process is recommended. The requested management plan should acknowledge and address living heritage value of the property and should institutionalize consultation with local communities
5. Develop and begin implementation of a plan for regular trash removal. Train site staff to collect trash when they see it. Determine most appropriate locations for trash receptacles according to visitor management planning and design and install unobtrusive bins within reach of visitor circulation paths (see Visitor Infrastructure).

Conservation:

6. Install on an urgent basis at least three environmental monitors/weather stations (to be installed in each of the monuments clusters such as the Sammas, Arkhun/Tarkhan, and Mughal) to collect data on fluctuations in temperature and relative humidity that may serve as factors of deterioration in critical monuments, as well as to record wind speed

- and directions, as well as rainfall and other data.
7. Install Avongard tell-tales (crack monitors)¹⁴ on cracks of concern in the principal monuments, including tomb of Jam Nizzamuddin and Jamia Masjid. Photograph all locations before and after installation and establish a regimen of monitoring that begins aggressively (every three months) and slows down (annually) if no change is recorded. If change is noted, more frequent monitoring (monthly) should be undertaken.
 8. Conduct a systematic soil investigation/geo-physical survey in the vicinity of the Mausoleum of Jam Nizzamuddin. Resulting data, along with data from a crack monitoring and a condition assessment of the structure, should provide the basis for a conservation plan of the monument;
 9. Stabilise all elements in danger of collapse, including in the Jamia Masjid, Jam Nizzamuddin, as well as in a number of other monument groups. Prior to commencing work on each monument, develop: 1) detailed condition mapping and documentation; 2) characterization of original building fabric (e.g. stone and brick masonry, mortar, plaster, tile and glaze); 3) history of interventions to understand the series of subsequent work on each building and how that may affect development of successful interventions; 4) design of compatible intervention materials, which must be informed by analysis of original fabric mentioned in #2; 5) specifications for interventions that include instructions for fabrication of intervention materials and their application and implementation; and 6) plan for monitoring and maintenance after interventions are completed
 10. Document fallen original fabric and store it carefully in sanctioned storehouses, and establish a documentation procedure for this purpose. The procedure should include the following steps: 1) photograph materials as found in situ; 2) label and photograph individual elements; 3) store materials in dedicated storehouse/magazine; and 4) create and maintain an inventory of all collected items.
 11. Carry out on an urgent basis full documentation of the existing architectural surface decoration such as remaining glazed tiles, which are important attributes of the OUV and have already been largely lost, and establish a condition report to be accompanied by a damage assessment.
 12. Determine how best to complete the conservation work at the Sultan Ibrahim mausoleum, taking into account its critical state both at the structural and surface level including the domes and surface architectural decoration.

Requiring Immediate Consideration and Implementation by 2019

Management:

1. Develop and install consistent signage with visually engaging and informative content at each of the principal monuments and along the main access road in front of the four principal monument groupings (Samma, Arkhun, Tarkhan, and Mughal). Together, the signage should provide a narrative about each of the kingdoms/periods represented at the site, the principal structures and their significance, building materials and

¹⁴ Tell-tales can be purchased for roughly US\$20 ea. Record sheets can be downloaded from the Avongard website for free (<http://www.avongard.com/products/category/1/tell-tales/P-00001/standard-tell-tale>).

architectural styles, and conservation of the monuments and the site. Signage should be visually unobtrusive and provide content at least in Sindhi, Urdu, and English. It is also possible to integrate QR codes and website links on select signs to provide additional resources for interested visitors.

2. Determine the most appropriate locations for dispersed visitor facilities (e.g. bathrooms, rest stops, shelters, trash bins, information kiosks) and design and install unobtrusive infrastructure that is accessible from principal sites but that does not result in visual intrusion.
3. Using the new inventory as a baseline, investigate the history of burials and develop a more accurate estimation of burials at the site and request an amendment to the statement of OUV, if applicable.
4. Consider the best options for the future of structures within the buffer zone and develop a five-year plan for phasing out or diminishing current use and relocating necessary activities outside of the buffer zone.

Conservation

5. Establish clear standards and mechanisms for continued supervision of ANY AND ALL interventions carried out at the site, whether by Sindh Government staff or third parties. Ensure all regulations are followed and proposals for work submitted, reviewed, and approved PRIOR TO ANY WORK AT SITE COMMENCING. It is also recommended that the Government of Sindh establish an independent Technical Advisory Committee to review and provide commentary on intervention proposals to inform Government decisions. This is particularly important since it appears that the Government of Sindh does not have sufficient staff with the necessary expertise to assess the appropriateness and effectiveness of interventions, nor does it have in place any specific mechanisms for adequate decision-making.
6. Develop a process for the prioritization of work on site and related allocation of budget to ensure the most critical needs are met first. Priorities should be determined by significance and condition, such that the most significant monuments in the worst conditions are treated in preference to those of lesser significance and/or in a less severe state of conservation.
7. Prioritize principal monuments according to process developed above. Plan and begin to implement stabilization work to prevent collapse or loss of structural and decorative elements. The process should follow the basic steps outlined above (see Intervention Design and Implementation), but take priority over other work because of the severity of conditions and resulting threat of damage or loss. Continued triage and prioritization of need should be practiced at the site to identify and address, even temporarily, critical conditions. This approach should similarly be practiced as part of disaster response (see Risk Preparedness).
8. Create extensive baseline photographic documentation of each principal monument that can be used to monitor visible changes in the structures (e.g. loss of material, cracks, discoloration, biological growth). All photographs should include size and color scales¹⁵

¹⁵ Reliable, inexpensive scales can be ordered from the International Federation of Rock Art Organization (IFRAO) at auraweb@hotmail.com. 100 laminated paper scales are available for AUD100 and should last for years with care.

for reference.

9. Use baseline photography for annual monitoring to determine changes in principal structures and gravesites of significance. These photographs should also be used in disaster response inspections (see Risk Preparedness section).
10. Create extensive baseline photographic documentation of each principal monument that can be used to monitor visible changes in the structures (e.g. loss of material, cracks, discoloration, biological growth). All photographs should include size and color scales¹⁶ for reference.
11. Use baseline photography for annual monitoring to determine changes in principal structures and gravesites of significance. These photographs should also be used in disaster response inspections (see Risk Preparedness section).
12. Develop and implement an appropriate drainage system that evacuates water away from the monuments and off the site. This system should be unobtrusive, but sufficient for a 50-year rain event.

Capacity Building

25. Increase expertise of the Department of Archaeology by urgently developing, providing a short and mid-term training programmes for ALL STAFF of the Department of Archaeology, and hiring experts whenever necessary, and develop a detailed roster of responsibilities and schedule of activities for each staff member. Training should include best management practices, safety protocols, visitor management, inspection and survey, and emergency response appropriate to the responsibilities of each staff member.
26. Identify and/or hire key staff with the necessary skill sets to generate, manage, and maintain digital information relevant to the maintenance and protection of the site and provide them with the requisite computers, software, and associated tools.
27. Multiple staff should be aware of and facile in decision-making processes and share in responsibility of ongoing conservation work and management practices.
28. Establish a documentation center at the site with appointed, capable staff to manage it and provide access to site staff, researchers, and others, as deemed appropriate.

¹⁶ Reliable, inexpensive scales can be ordered from the International Federation of Rock Art Organization (IFRAO) at auraweb@hotmail.com. 100 laminated paper scales are available for AUD100 and should last for years with care.

6. ANNEXES

Annex 1: Terms of Reference for the mission

11-15 April 2016

In accordance with the **Decision 39 COM7B. 70**, adopted by the World Heritage Committee at its 39th session (Bonn, 2015), the Reactive Monitoring mission shall assess the state of conservation of the Property, as follows:

1. Assess the state of conservation of the property and the factors affecting the protection of its OUV, including factors that constitute significant threat to the property, as well as the lack of conservation of the Tomb of Jam Nizamuddin;
2. Explore why there has been slow progress by the relevant provincial authorities in the implementation of the recommendations of the 2012 joint World Heritage Centre/ICOMOS reactive monitoring mission, as well as the decisions made by the World Heritage Committee at its 37th and 39th sessions, in particular on:
 - a. Conservation work on the Tomb of Jam Nizamuddin,
 - b. Development and completion of the Master Plan for the property that has been worked on since 2012 and will include:
 - i. conservation actions, including a strategy for prioritised emergency work,
 - ii. the development of a comprehensive inventory,
 - iii. an overall monitoring programme for all the monuments including the mausoleum and pavilions;
 - iv. a programme for maintenance works;
 - v. a disaster risk management plan.
3. Provide advice to the State Party on the completion and implementation of the Master Plan; and assist the State Party with further developing and prioritising activities listed in the Master Plan, and with the prioritisation of available resources;
4. Assess progress with:
 - the identification of boundaries and buffer zone for the property and establishment of regulatory measures to ensure its protection and management,
 - actions implemented to address encroachments and control urban pressure;
5. Assess the current capacity of the relevant authorities responsible for the management of the property at the levels of both human resources as well as financial means, taking into account that the custody of the property has come under the provincial government only in 2011;
6. Assess the presentation of the property, such as installation of interpretive signboards, the existence of proposed visiting paths and etc.;
7. Analyse whether there are ascertained or potential dangers to the Outstanding Universal Value of the property which would warrant its inscription on the List of World Heritage in Danger;
8. Based on the results of the above-mentioned assessments and discussions with the State Party representatives and stakeholders, the mission will develop recommendations

to the Government of Pakistan and the World Heritage Committee which will be included in the mission report;

9. Prepare a joint mission report in English by using the format attached in this document as annex II, for review by the World Heritage Committee at its 40th session (Istanbul, 2016). The report should follow the attached format and should be submitted to the UNESCO World Heritage Centre and ICOMOS Headquarters by 15 April 2016 at the latest in hard copy and an electronic version.

Annex 2: Decision 39 COM 7B. 70

Historical Monuments at Makli, Thatta (Pakistan) (C 143)

The World Heritage Committee,

1. Having examined Document WHC-15/39.COM/7B.Add,
2. Recalling Decision **37 COM 8B.30**, adopted at its 37th session (Phnom Penh, 2013),
3. Expresses its concern over the slow progress of works in view of the significant threats to the Outstanding Universal Value (OUV) of the property, which have yet to be fully addressed;
4. Urges the State Party to speed up the completion of the Master Plan, which has listed all the issues raised by the Committee at its previous sessions, as a matter of priority;
5. Requests the State Party to invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property to:
 1. Review the state of conservation of the property, including factors that constitute a serious threat to the property and the conservation of Tomb of Jam Nizzamuddin,
 2. Provide advice to the State Party with the completion and implementations of the Master Plan,
 3. Assist the State Party with further developing and prioritising activities listed in the Master Plan;
6. Also requests the State Party to submit to the World Heritage Centre, by **1 February 2016**, an updated report, including a 1-page executive summary, on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 40th session in 2016.

Annex 3: Programme of the Joint WHC/ICOMOS Reactive Monitoring Mission

18 April: Arrival of the mission members

19 April

10:00: Briefing and preparatory meeting between WHC and ICOMOS

12:00: Meeting WHC/ICOMOS and Provincial Coordinator of the UNESCO Islamabad

14:00: Meeting with secretary, Department of Culture, Government of Sindh
Presentation on the preparation of the Master plan by the private engineering consulting company/ Question/answer and discussion on the proposed master plan

20 April: Visit of the Makli WH property

21 April: Meetings

9:30-10:30: Meeting with Mr.Hameed Akhund, President of the Government' s Endowment Funds, and Former Minister of Culture, Sindh Government

11:00-12:20: Meeting with Mrs. Sharmila Faruqi, Minister of Culture, Sindh Government

12:30-14:00: Meeting with Mr. Hameed Haroon, CEO of the Dawn News paper

14:30-17:30: Meeting with the Heritage Foundation

22 April

09:30: Meeting with Secretary Culture and Director of the Department of Archaeology, Sindh Government and other staff of the Department of Archaeology

12:00: Working lunch

14:00: Wrap-up meeting with the Secretary Culture and Director of Archaeology

17:00-18:00: Meeting with the US Consulate in Karachi

23 April: Departure of the mission members