Report of the Joint World Heritage / ICOMOS Reactive Monitoring Mission to
The World Heritage Site of
“GEBEL BARKAL AND THE SITES OF THE NAPATAN REGION”, SUDAN
(17-25 February 2019)

Gebel Barkal and the Pyramids (Y.Tabet)
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2 EXECUTIVE SUMMARY

Since the last World Heritage Centre / ICOMOS / ICCROM Reactive Monitoring Mission in 2011, the World Heritage Committee has examined and adopted five Decisions on the state of conservation in which it expressed many concerns that were not tackled over time. In Decision 42 COM 7B.59, adopted in Bahrain in July 2018, the World Heritage Committee requested the State Party to invite, as a matter of urgency, a joint World Heritage Centre/ICOMOS Reactive Monitoring Mission to the property.

Recognizing the outstanding universal value of the World Heritage Site of “Gebel Barkal and the Sites of the Napatan Region”, the mission field visits ascertained the critical situation to which the different components of the property have reached since the last World Heritage Centre / ICOMOS / ICCROM Reactive Monitoring Mission in 2011.

Despite the acknowledged efforts made by the State Party and the different international teams, a large number of the recurrent issues highlighted by the WH committee’s consecutive decisions regarding the state of conservation and the management of the property are still unsolved or even not tackled yet by the State Party.

Even with the budgetary assistance provided by the Qatar-Sudan Archaeological Project (QSAP), the integrity and the authenticity of the site are both highly vulnerable. There is also concern that the management plan approved since 2007 remain unimplemented.

Integrity

The building materials and shapes of most of the pyramids, palaces, temples, burial chambers and funerary chapels are in a critical state of conservation and their materials threatened by the degradation due to mismanagement, weathering factors and uncontrolled visitation. The relief, writings and plaster painted scenes in temple B500 for example are losing their texture and colour, not to mention the deterioration of the remains by flash floods and the effect of windblown sand erosion on their fabric. The same goes for the mudbrick structure B1200; Not to mention the pyramids of Nuri and the Sanam temple.

Modern urban extensions are today seriously affecting the archaeological structures and the core zones of the different components of the WH Property. The buffer zones are witnessing uncontrolled and dynamic urban extensions of the cities or sold for investment as it is the case of the western and north-western area of Gebel Barkal site. Houses are built on the edges of the core zones of the different components. Informal vehicle pathways are set inside the core zones of most of the property’s components and even new roads are built inside the core zones of others e.g. Gebel Barkal site.

Consequently, it is very difficult today to support the statement about the high degree of intactness of the attributes expressing the Outstanding Universal Value that supported this serial site’s great integrity.

Authenticity

The statement saying that “the five sites are located in an exceptional river and semi-desert landscape almost untouched by modern development”, also cannot be supported anymore.
The photos and aerial images from 2004 until today confirm the degradation of the landscape which has reached alarming levels.

Neither can we support the statement saying that most of the pyramids of Gebel Barkal are still preserved in their original shape and height. As it was seen by the mission, these monuments have reached a critical state of degradation which could compromise the structural stability of many of them.

The rise of the water table is affecting the painted tomb chambers at Nuri and the situation of the reliefs and the paintings of temple B500 at Gebel Barkal is reaching critical levels.

The landscape of the monuments has changed dramatically since the inscription of the property and does not demonstrate the original pattern of human occupation of the territory anymore.

All the attributes related to design, materials, art, inscriptions, location and setting which express the Outstanding Universal Value of the property are jeopardized and are subject to real threats which could cause irreversible damages if no actions are urgently taken to restore the situation.

**Boundaries**

The delimitation of the boundaries of the different components is a major issue for the nominated serial Property. Already the World Heritage Committee raised the issue of the need to identify the boundaries of the five component parts in accordance with the standards identified in Annexe 11 of the Operational Guidelines (40 COM 7B.28; 42 COM 7B.59). The Mission analysed the documentation provided by the State Party in an attempt to explain this issue. The maps provided with the inscription file are unrectified aerial photos on which a series of drawn polygons act as the limits of the different components of the Property. Furthermore, the various versions of the maps provided by the State Party to the 2011 Reactive Monitoring Mission give different limits than the original nomination documents. Moreover, when the 2019 mission mapped the actual boundaries on site which are physically represented by the concrete poles implanted on the ground, the results were also different than all the previously mentioned documents/ mediums.

**Management Plan**

According to the 2011 Reactive Monitoring mission, “a Management Council has been established and a resident site manager has been appointed. He is assisted by a group of technicians. A management plan was prepared in 2007 and approved in 2009”. Also, it was reported by the mission that “the Management Council will attract foreign partners to contribute to the ongoing efforts for the preservation of the archaeological heritage of the sites.” After discussion with the management team on site, it became clear that this Management Council has never functioned and the management plan has never been implemented. This is due to the lack of personnel and the capacity of the present management team to cope with the tremendous workload they already have on the level of the northern state level.

To summarize, the situation today is beyond the handling capacity of NCAM. Consequently, the previous recommendations of the World Heritage Committee cannot be addressed; not
because of the unwillingness of the State Party but because of its incapacity to do so. Consequently, the State Party, precisely NCAM, need serious help and support from the international community and UNESCO.

**Conclusion**

It is clear that the property suffers from:

1. serious deterioration of materials;
2. serious deterioration of structure and ornamental features;
3. Lack of systematic approach towards the management of the property.

The Property also faces threats that could have deleterious effects on its inherent characteristics, such as:

4. lack of conservation policy;
5. threatening effects of regional planning projects, including town planning;
6. threatening impact of uncontrolled tourism;

Major operations are therefore necessary for the conservation of the Property.

Due to these reasons, and those outlined in the mission report above, the mission considers that the alarming level of deterioration at most sites is impacting highly adversely on the authenticity and integrity of the property, and that the development on the western side of Gebel Barkal would irretrievably compromise it setting. These threats combined with the negative impact of uncontrolled tourism and lack of adequate protection and management are impacting adversely, and in places irreversibly on the OUV of the property. It is urgent that the State Party take immediate actions to control the situation and implement fully the recommendations of the mission.

In response to the request of the World Heritage Committee (Decision 42 COM 7B.59, adopted in Bahrain in 2018) to consider whether inscription of the property on the List of World Heritage was justified in line with Paragraph 179 of the *Operational Guidelines*, the mission proposes that the opportunity be given to the State Party to urgently implement the recommendations of the mission and to report in 2020 on the progress made with controlling the current degradation. Without considerable progress toward the improvement of the situation at the property, the inscription of the property on the List of World Heritage in Danger should be seriously considered by the World Heritage Committee at its 44th session.

**Recommendations**

**Boundaries and Legal Protection:**

1. The clarification of boundaries and the development of a minor boundary modification, with proper regulations established for the buffer zones, is of crucial importance. It should be submitted to the World Heritage Centre for approval by the World Heritage Committee according to the regulations stipulated in Annexe 11 of the Operational Guidelines. The boundaries should include all the elements that convey the Outstanding Universal Value (OUV), particularly in relation to the Zuma component where one of the tumuli is outside the current site boundaries. [Urgent]
2. The buffer zone should be extended to encompass the immediate setting of the different components in order to avoid any further development that could have an impact on the property’s authenticity and integrity.

3. It is of the utmost urgency that the State Party clarifies the ownership, official land use and function of the land to the west and north-west of Gebel Barkal reported as being sold for development, and establish proper regulation for the buffer zone to ensure the protection of the property. This area was defined as Buffer Zone for the site as defined in the 2011 plans handed over by NCAM to the Reactive Monitoring mission in 2011. [Urgent]

4. The legal protection of the World Heritage property components and their surroundings has to be clarified by the State Party, namely when considering decisions to be taken by the federal governments. In this sense, a master plan should be set up for these surroundings, defining the desired and unwanted forms of developments with urban planning regulations and mechanisms to protect the integrity of the World Heritage property from urban and regional development.

5. Since NCAM is considering strengthening its 1999 Ordinance through amendments to ensure adequate protection of the World Heritage property, it is important to include issues of coordination between the different institutions of the State, and the integration of this coordination principle within national and local development plans. The mission recommends that the amendments be adopted as soon as possible by the Council of ministers including the reference to urban planning issues, as a prerequisite to ensure the adequate protection of the property.

Conservation:

6. Before attempting to carry out any major conservation or restoration intervention, a monitoring system should be implemented on all the component sites of the property. Only long-term monitoring would allow the detection of the nature and the speed of degradations.

7. In parallel, a comprehensive conservation plan for the whole property should be undertaken. Urgent focus should be put on the Gebel Barkal monuments.

8. Any further conservation interventions on the site, including the issue of reburial, should be discussed on a broad-international level among conservation specialists and the results incorporated into the conservation strategy for the property. The mission urges the State Party to create such a conservation strategy document that should be shared with the World Heritage Centre and the Advisory Bodies before any implementation takes place on a large scale. In this sense, the mission recommends that the approach adopted in the conservation of the Meroe pyramids, as well as the Naqa temples, be researched to see if it could be applied to the Nuri component and the pyramids at Gebel Barkal. This method proved its efficiency over a period of ten years of application.

9. All shallow archaeological features apparent on the ground at Sanam should be backfilled temporarily until their excavation and conservation. [Site-Specific]
Management and Capacity Building:

10. As for the new NCAM administrative structure which was sent to the Government for approval; NCAM should inform to the World Heritage Centre and the advisory bodies about the progress of this file and its state of approval and implementation.

11. NCAM should focus on capacity-building programmes related to heritage management and conservation. The exchange of expertise with the teams working on the different sites would be a good starting point. Nevertheless, more systematic transmission of knowledge by different means through international workshops and conferences are also needed.

12. The full application of the approved 2007 management plan should be of utmost priority for the State Party, considering that this plan should be updated in parallel to its implementation.

13. Tourism management should be addressed at the level of the World Heritage property, in order to harmonize the interpretation and presentation of all its components and control visitor flow. Interpretation panels are most needed to understand the property and its components, given the fact that some components do not present any obvious valuable element to the general public (e.g. Zuma).

14. Waste management should be dealt with on the level of the World Heritage property in order to address the related issues globally for all the involved components.

15. The access of motor vehicles to the different components of the World Heritage property should be absolutely stopped.

16. More emphasis should be drawn to the upgrade of the capacity of the personnel and the recruitment of new efficient and knowledgeable people who can address heritage modern needs, namely regarding World Heritage properties.

New development projects at the site:

17. All new development projects should imperatively be sent to the World Heritage Centre and the Advisory Bodies prior to their implementation according to article 172 of the Operational Guidelines.

18. It is crucial to stop immediately the construction works of the entrance building developed by “Indico Consult” at El-Kurru, within the buffer zone of the site, as defined in the 2011 plans handed over by NCAM to the RMM in 2011, due to the huge damage it could cause to the site and its direct surroundings. [Urgent]

19. The mission recommends reconsidering the funds dedicated to the Museum and storage upgrade in Gebel Barkal. Instead of proposing a repair and extension of this museum structure, the focus should be laid rather on the documentation and conservation of the museum objects. [Site-Specific]

20. The administrative structure, the storage room and the museum in Gebel Barkal should be transferred to a nearby location on the edge of the site boundary.
Consequently, new appropriate structures should be built for this purpose that conforms with international standards. [Site-Specific]

21. The mission recommends to completely remove hotel construction in front of the western pyramids which present a real threat to the property’s integrity and authenticity. Furthermore, include the area where it is constructed within the buffer zone of the site. [Site-Specific]

22. A stronger and less invasive protective cover should be introduced to cover the tomb chambers at Zuma (see project technical review in Annex 8). It could be similar to the current shelter but able to handle greater loads. As for the protection from the rainwater, a temporary rain shelter that is installed during the rainy season has to be considered. [Site-Specific]

Research and Awareness Raising:

23. The hydrological issues, either flash floods or ground water levels in the different components should be addressed properly by the State Party. It needs to include the morphology of the terrain levels at landscape scale into the site documentation either by topographic or aerial laser scanning. Based on the above, hydrogeological studies and analysis should be done by professional entities indicating flood plains and drainage patterns.

24. Awareness raising and community involvement should be addressed seriously by the authorities and the archaeological missions working on the different sites. The example of the dynamic taking place in El Kurru is a good example to follow.

25. Finally, the mission advises that the State Party develops an Action Plan based on the detailed assessment of the recent Reactive Monitoring mission, and invites an Advisory Mission to support NCAM in its elaboration if needed. Such an Action Plan should be structured along five main straits already introduced with the recommendation section:

1. Management Structure and legal instruments (also in conjunction with other sectors such as rural/urban development);
2. Inventory and Documentation within the framework of a Risk Preparedness approach;
3. Conservation/Restoration strategy and Monitoring;
4. Development and Community Involvement;
5. Presentation of the Property and Tourism Management.

The Action Plan should include a time and work plan for the next five years, identifying under each section detailed emergency interventions to be carried out within the next two years (until the end of 2022). [Urgent]
3 BACKGROUND TO THE MISSION

3.1 Inscription History

The property of “Gebel Barkal and the Sites of the Napatan Region” was inscribed on the World Heritage List in 2003, at the 27th session of the World Heritage Committee. The justification for inscription presented in the Nomination file was as follows:

« Le Gebel Barkal est à l’origine du vaste ensemble de Napata. Il s’agit d’un site extraordinaire constitué d’un massif tabulaire s’élevant à près de 100 m au-dessus du niveau de la plaine alluvionnaire. Sa falaise de grès a vraisemblablement marqué les esprits des anciens et l’on doit considérer que, très tôt, on y installe un lieu de culte. D’ailleurs, les nombreux temples et palais construits au pied de cette « montagne sacrée » en apportent la preuve. Ils démontrent à satiété que la résidence du fameux dieu Amon, sous sa forme de bélier, se trouvait là, dans le rocher.

En face, sur la rive gauche du fleuve, se développe une agglomération qui va devenir capitale des deux pays, l’Égypte et la Nubie. La ville conservera son rôle de grande métropole au cours des temps napatéens, puis méroïtiques. Le centre urbain est dominé par un temple richement décoré. Quatre nécropoles royales ont été partiellement fouillées aux environs. Elles ont livré un mobilier splendide provenant des nombreuses chambres funéraires. Ces objets permettent de se faire une idée de la qualité de l’artisanat et de la complexité des cérémonies en rapport avec les inhumations. Impressionnants sont les pyramides et les tumuli ayant souvent conservé toute leur élévation. On notera encore quelques beaux exemples du décor peint des salles souterraines auxquelles on accède par de longs escaliers creusés dans le roc en avant et sous des chapelles. »

In its evaluation, ICOMOS recommended “that this Property be inscribed on the World Heritage List on the basis of criteria (i), (ii), (iii) and (iv):

The nominated pyramids and tombs, being also part of the special desert border landscape, on the banks of the Nile, are unique in their typology and technique. The nominated remains are the testimony to an important ancient culture which existed and flourished in this region only.”

The property consists of five archaeological sites:

<table>
<thead>
<tr>
<th>Name</th>
<th>Area (ha)</th>
<th>Buffer (ha)</th>
<th>Coordinates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gebel Barkal</td>
<td>121.00</td>
<td>40.00</td>
<td>N18 32 00 E31 49 00</td>
</tr>
<tr>
<td>El-Kurru</td>
<td>4.50</td>
<td>6.50</td>
<td>N18 24 36 E31 46 17</td>
</tr>
<tr>
<td>Nuri</td>
<td>17.00</td>
<td></td>
<td>N18 33 50 E31 55 00</td>
</tr>
<tr>
<td>Sanam</td>
<td>20.00</td>
<td></td>
<td>N18 28 56 E31 49 08</td>
</tr>
<tr>
<td>Zuma</td>
<td>20.00</td>
<td></td>
<td>N18 22 12 E31 44 28</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>182.50</strong></td>
<td><strong>46.50</strong></td>
<td></td>
</tr>
</tbody>
</table>

Further to this, the World Heritage Committee requested the State Party “to work with the World Heritage Centre to finalize the management plan, including an active conservation programme with priorities, budget, appropriate staff and timelines; and to ensure full government commitment to its implementation” (Decision 27 COM 8C.31).
Following up on this request, the World Heritage Centre undertook an Advisory mission to Gebel Barkal in February 2004 intending to develop, in collaboration with the National Corporation of Antiquities and Museums (NCAM) in Sudan, an outline of a management plan with a timeline for implementation. To complete the Draft Management Plan, the Sudanese Authorities submitted a request for International Assistance under the World Heritage Fund (no. 2005-1190).

Upon approval of this request by the Chairperson of the World Heritage Committee on 18 February 2005, another mission to Gebel Barkal was organized in April 2006 to complete the work and integrate all previous recommendations and observations into a comprehensive management plan document. The Final Draft Management Plan for the World Heritage Property of Gebel Barkal and the Sites of the Napatan Region was finalized on 10 November 2007 and subsequently approved by the Sudanese authorities.

3.2 Inscription criteria and World Heritage values:

The retrospective Statement of Outstanding Universal Value, adopted by the World Heritage Committee at its 34th session in 2010 (Decision 34 COM 8E), is as follows:

Brief synthesis

Gebel Barkal and the Sites of the Napatan Region comprise five archaeological sites on both sides of the Nile in an arid area considered part of Nubia. Together they cover an area more than 60 km long. The sites (Gebel Barkal, Kurru, Nuri, Sanam and Zuma) represent the Napatan (900 - 270 BC) and Meroitic (270 BC - 350 AD) cultures of the second kingdom of Kush. They include tombs, with and without pyramids, temples, burial mounds and chambers, living complexes and palaces. They exhibit an architectural tradition that shaped the political, religious, social and artistic scene of the Middle and Northern Nile Valley for more than 2000 years (1500 BC- 6th Century AD).

The pyramids, tombs, temples, palaces, burial mounds and funerary chambers set in the desert border landscape on the banks of the Nile, are unique in their typology and technique. The remains, with their art and inscriptions, are testimony to a great ancient culture that existed and flourished only in this region.

Gebel Barkal has been a sacred mountain since New Kingdom times (ca. 1500 BC). The Egyptians believed that their State God Amon resided in this “Holy Mountain”. Today, the mountain is locally named (Gebel Wad el-Karsani) after a Muslim sheikh (saint) buried near the 100m high, flat-topped sandstone rock. The mountain is closely associated with religious traditions, since the tomb of this sheikh is still being visited by the local people for blessings.

Criterion (i): The pyramids, palaces, temples, burial chambers and funerary chapels of Gebel Barkal and the Sites of the Napatan Region and their related relief, writings and painted scenes on walls represent a masterpiece of creative genius demonstrating the artistic, social, political and religious values of a human group for more than 2000 years.

The corbel vaults of the tombs of Kurru constitute a new building technique which influenced Mediterranean architecture from the 7th Century BC onwards.
**Criterion (ii):** In terms of their architecture the sites of the Napatan Region testify to the revival of a once almost universal religion and related language: the Egyptian old script and the worship of the State God Amon.

**Criterion (iii):** Gebel Barkal and the other sites of the property bear an exceptional witness of the Napato-Meroitic (Kushite) civilization that prevailed in the Nile Valley from the 9th Century BC to the Christianization of the country in the 6th Century. This civilization had strong links to the northern Pharaonic and other African cultures.

**Criterion (iv):** The typology of the buildings, their details and the layout of the ensemble of the pyramids of Gebel Barkal, Nuri and Kurru with their steep angles and decorated sides, together with the painted rock-cut burial chambers, represent an outstanding example of funerary architecture and distinctive art that prevailed over a long period of time (9th Century BC- 4th Century AD). The mounds of Zuma represent a continuation of some aspects of this burial tradition up to the 6th Century AD.

**Criterion (vi):** Since antiquity the hill of Gebel Barkal has been strongly associated with religious traditions and local folklore. For this reason, the largest temples (Amon Temple for example) were built at the foot of the hill and are still considered by the local people as sacred places.

Integrity (2009)

The building materials and shapes of the pyramids, palaces, temples, burial chambers and funerary chapels have not been altered or modified. The relief, writings and painted scenes have equally preserved their original design, texture and color.

The high degree of intactness of the attributes expressing Outstanding Universal Value gives the serial site’s great integrity. The archaeological buildings are only very slightly affected by modern urban extensions. However, careful monitoring of the developments around the property needs to be carried out, especially urban extension on the Desert side.

Authenticity (2009)

The five sites are located in an exceptional river and semi-desert landscape almost untouched by modern development.

Most of the pyramids of Gebel Barkal are still preserved in their original shape and height. The relief and paintings on the walls of temples and burial chambers are equally well preserved. Even the monuments affected by the action of nature and man still demonstrate the original pattern of human occupation of the territory.

The limited inadequate restoration interventions of the last century are easy to remove and replace by others according to modern scientific standards.

The material remains, such as the inscriptions (Mut Temple) and the paintings (Kurru), express the revival of a once almost universal religion and related language: the Egyptian old script and the worship of the State God Amon.
The scene preserved inside the rock-cut temple dedicated to the Goddess Mut and representing King Taharqa worshiping God Amon seated inside the flat topped mountain testifies to the sacred nature of this mountain.

The site is connected with the greatest Kings of the Middle Nile Region, whose political power extended up to the Egyptian Delta and Palestine. One of their famous rulers, Taharqa, is the only Sudanese sovereign mentioned by name in the Old Testament.

All these attributes in terms of design, materials, art, inscriptions, location and setting express the Outstanding Universal Value of the property.

Protection and management requirements (2009)

The property is protected by the Antiquities Protection Ordinance of 1905, amended in 1952 and recently in 1999. A Management Council has been established and a resident site manager has been appointed. He is assisted by a group of technicians.

A management plan was prepared in 2007 and approved in 2009. This plan still needs to be fully implemented.

The sites are guarded by a military force from the Police of Tourism and Antiquities. Detailed topographic maps have been prepared showing clearly the boundaries of the property. A buffer zone which would provide a better protection to the property is still to be established on the five components of the property. This buffer zone is only partially established. A consultant company is preparing the design and cost for the fencing and basic infrastructure on the sites. A museum for the history of the region has been established within the compound of a tourist village at Sanam in cooperation with a local investor.

The Management Council will attract foreign partners to contribute to the ongoing efforts for the preservation of the archaeological heritage of the sites. There is still a considerable potential for research on the five components of the property.

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


A joint World Heritage Centre/ICOMOS/ICCROM Reactive Monitoring mission was undertaken in 2011.

This mission relayed concerns regarding threats to the Outstanding Universal Value (OUV) of the property.

The factors previously noted as affecting the property can be summarized as follows:

- Deterioration as a result of exposure to difficult environmental conditions such as wind with sand and floods
- Urban encroachment
- Absence of a management plan with government commitment
Flooding
Ground transport infrastructure
Housing
Major visitor accommodation and associated infrastructure
Management systems/management plan
Wind and desertification

Furthermore, the Committee has expressed many concerns, requests and suggestions throughout its different Decisions. These are encapsulated in the latest Decision (42 COM 7B.59), adopted in Bahrain in July 2018:

1. **Having examined** Document WHC-16/40.COM/7B,
2. **Recalling** Decision 40 COM 7B.28, adopted at its 40th session (Istanbul/UNESCO, 2016),
3. **Notes** the preventive conservation efforts and preservation actions so far implemented by the State Party in the framework of the Qatar-Sudan Archaeological Project;
4. **Expresses its concern** about the overall state of conservation of the Property which, according to the information provided, appears to be in a perilous state, reflecting years of neglect, lack of maintenance and protection, and inadequate management and staff capacity, which result in the deterioration of important attributes, threatening the Property’s integrity and having a direct negative impact on its Outstanding Universal Value (OUV);
5. **Regrets** that, despite its previous request, no clear information has been provided on the overall strategy and status of project activities for each of the five component parts, nor have the urgent management and monitoring issues been addressed;
6. **Also regrets** that no information has been provided concerning the completion of the mapping to clearly identify boundaries of the five component parts in accordance with the standards identified in Annex 11 of the Operational Guidelines;
7. **Urges** the State Party, in cooperation with the World Heritage Centre and the Advisory Bodies, to address the management issues and need for a monitoring system in order to adequately target long-term conservation needs, and to provide details on the tourism management plan, as well as detailed documentation on the actions carried out and planned in the five component parts;
8. **Requests** the State Party to provide detailed information and documentation on the proposal to construct a cover over the El Kurru funerary temple, to the World Heritage Centre for review by the Advisory Bodies;
9. **Also requests** the State Party to invite, as a matter of urgency, a joint World Heritage Centre/ICOMOS Reactive Monitoring Mission to the Property to: evaluate its state of conservation, identify precise threats to its OUV in collaboration with key national and international stakeholders, develop a plan of action to address the issues of management, monitoring and visitor management, and to determine whether the state of conservation of the attributes that sustain the OUV of the Property, notably its authenticity and integrity, are subject to ascertained or potential danger; in line with Paragraph 179 of the Operational Guidelines;
10. **Further requests** the State Party to submit to the World Heritage Centre, by 1 February 2019, an updated report on the state of conservation of the Property and the
implementation of the above, for examination by the World Heritage Committee at its 43rd session in 2019.

3.4 Justification of the Mission

The World Heritage Committee requested the State Party of Sudan to invite the joint World Heritage Centre/ICOMOS Reactive Monitoring mission (Decision 42 COM 7B.59) to evaluate the state of conservation of the property, identify precise threats to its OUV in collaboration with key national and international stakeholders, develop an action plan addressing management, monitoring and visitor management issues, and determine whether the state of conservation of the attributes that sustain the property’s OUV, notably its authenticity and integrity, are subject to ascertained or potential danger, in line with Paragraph 179 of the Operational Guidelines.

The terms of reference of the Mission and its composition can be found in annex 1 of this report, while the itinerary of the Mission is included as annex 2.
4 NATIONAL POLICY FOR THE PRESERVATION AND MANAGEMENT OF THE WORLD HERITAGE PROPERTY

4.1 International Treaties and Programmes

The State Party has ratified the following relevant international treaties and programmes:

<table>
<thead>
<tr>
<th>Convention</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convention concerning the Protection of the World Cultural and Natural Heritage. Paris, 16 November 1972.</td>
<td>06/06/1974</td>
</tr>
<tr>
<td>Convention on Wetlands of International Importance especially as Waterfowl Habitat. Ramsar, 2 February 1971.</td>
<td>07/01/2005</td>
</tr>
</tbody>
</table>

It is also a member of the Man and Biosphere (MAB) programme’s International Coordinating Council until the end of 2019.

During the visit of the 2019 Reactive Monitoring mission, the State Party was in the process of ratifying the 1970 Convention as well as the second protocol of the Hague Convention.

4.2 Protected Area/National Legislation

The property is protected by the Antiquities Protection Ordinance of 1905, which was amended in 1952 and more recently in 1999. The 1999 Ordinance also provides for the protection of archaeological artefacts and objects, as well as museums (Article 13.1 “Preservation of antiquities”).

The 1999 Ordinance contains several articles aimed at protecting the surroundings of archaeological sites, in particular:

Art. 5.1: “the State is empowered […] to dispossess and to take into possession any site or historical building and has the right to invalidate any right of Property....”;

Art. 8.1: “[...] it’s forbidden to construct a new building near an archaeological or historical building without the prior approval of the National Corporation for Antiquities and Museums.”
However, in spite of these articles, the NCAM has recognized that the immediate setting and surrounding landscape of archaeological sites are currently not sufficiently protected from rural and urban development.

The mission was informed and provided with an amended version of the Antiquities Protection Ordinance of 1999 that is yet to be adopted by the Council of Ministers.

This table clarifies the amendments proposed to the Ordinance of 1999:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Ordinance of 1999</th>
<th>Amendments proposed to the Ordinance of 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions</td>
<td>Definitions at the beginning of the legislation.</td>
<td>The new law defines terms not found in the previous law, such as ‘renovation’, ‘reconstruction’ and ‘maintenance’.</td>
</tr>
<tr>
<td>Prohibited activities</td>
<td>Articles 7, 8 and 9.</td>
<td>Prohibited activities are all grouped under Article 10. The new law updates the list of prohibited activities on historical and archaeological sites to include the holding of festivals and celebrations without the relevant licenses and fee.</td>
</tr>
<tr>
<td>Land near archaeological and historical sites.</td>
<td>Article 10</td>
<td>There is an emphasis in the new law on protecting not only the historical and archaeological sites but also the neighbouring land as well. This is highlighted in Article 11.</td>
</tr>
<tr>
<td>Financial incentives for those who discover artefacts.</td>
<td>Article 18</td>
<td>The new law even gives financial incentives for anyone who discovers an ‘artefact’ that is not normally classified as such under this legislation. This article was introduced to reward individuals for their efforts. This is highlighted under Article 13 (3).</td>
</tr>
<tr>
<td>Ownership</td>
<td>Article 28</td>
<td>The previous law placed the ownership of artefacts discovered by archaeological teams in the hands of the State. The new law places the ownership of such artefacts in the hands of the General Authority of Antiquities and Museums specifically. The artefacts can only be leased by the archaeological team if approved by the Minister following recommendations by the General Authority of Antiquities and Museums. The length of the lease is now set at ten years maximum. This is highlighted under Article 14.</td>
</tr>
<tr>
<td>Licenses</td>
<td>Articles 24, 25 and 26.</td>
<td>The licensing requirements and the responsibilities of the archaeological team are further clarified under the new legislation. Vetting of the archaeological team is now required before the issuance of the relevant licenses, and there is a wider category of violations that would lead to revocation of license. This is highlighted under Articles 19 and 20.</td>
</tr>
<tr>
<td>Officials</td>
<td>Article 34</td>
<td>The new law further increases the power of officials, allowing them to object and block any developments or actions that could harm the antiquities. The new law punishes anyone who prevents the officials from undertaking their duties. This is highlighted under Articles 21 and 22.</td>
</tr>
<tr>
<td>Security</td>
<td>Not mentioned</td>
<td>In conjunction with the General Authority of Antiquities and Museums, security guards can be stationed at historical and archaeological sites when required. This is highlighted under Article 24.</td>
</tr>
<tr>
<td>Intellectual Property</td>
<td>Article 27.</td>
<td>There has been a further development of the Intellectual Property laws. This is highlighted under Article 27.</td>
</tr>
</tbody>
</table>
There has been a further development of cultural patrimony laws concerning restitution, which is based strictly on reciprocity. This is highlighted under Article 29.

These are all grouped under Section 5, Articles 30-33.

The financial aspects of the General Authority of Antiquities and Museums are addressed along with the budget under Section 6.

### Recommendations

Since NCAM is considering strengthening its 1999 Ordinance through amendments to ensure the adequate protection of the World Heritage property, the mission recommends to include issues of coordination between the different institutions of the State, and the integration of this coordination principle within national and local development plans. The mission recommends that the amendments be adopted as soon as possible by the Council of ministers including the reference to urban planning issues, as a prerequisite to ensure the adequate protection of the property.

### 4.3 Institutional Framework

The institution responsible for the protection of Sudanese archaeological heritage is the National Corporation for Antiquities and Museums (NCAM), which is part of the Ministry of Antiquities, Tourism & Wildlife. The NCAM is responsible for the maintenance, rehabilitation, conservation and presentation of the archaeological sites. Its responsibility and competences are regulated by the 1999 Ordinance for the Protection of Antiquities.

Furthermore, the Republic of Sudan’s Interim National Constitution (2005) incorporates the legal protection of the country’s cultural heritage.¹

Nevertheless, it provides for a decentralized system of government. Article 1 of the Constitution reads: “Sudan is a sovereign, democratic, decentralized, multicultural, multiracial, multiethnic, multireligious, and multilingual State […].” Article 24 identifies four hierarchical levels of government:

- The national level of government
- Southern Sudan level of government
- The state governments throughout Sudan
- The levels of local government throughout Sudan.

Article 26 of the Constitution establishes the principles of coordination and cooperation between these four levels of government and insists on respect for the autonomy of each one with their respective competencies.

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¹ This constitution, in force at the time of the mission has been suspended on 11 April 2019 following a military coup. At the time on drafting the report, plans for re-enabling the 2005 Interim National Constitution or creating a new constitution were unknown.
The Constitution attributes to the Federal State the major principles and directives, in particular in the realm of culture: “The State shall recognize the richness of the Sudan’s cultural diversity and shall encourage such multiple cultures to harmoniously flourish and find expression, especially through the official media and education.” Furthermore, in the same Constitution, it is mentioned that “The State shall protect the Sudan’s cultural heritage, such as monuments and places and objects of national, historic or religious importance, from destruction, discretion, unlawful removal or illicit export.”

This is said, the prerogatives of the main two stakeholders, i.e., the government and the Heritage Authorities (NCAM) over the surrounding areas of the World Heritage properties are not clearly defined.

In this sense, the State Party’s 2019 report on the state of conservation mentioned that the local federal government sold the area in front of Gebel Barkal site for development. This same area that was intended to be the buffer zone of the archaeological site.

**Recommendations**
The mission requests that NCAM clarifies this issue and proposes possible and potential legal solutions in order to keep development out of this area, which should be defined as a buffer zone as specified on the maps provided by NCAM to the 2011 Reactive Monitoring mission.

4.4 Administrative Structure

During the mission, the NCAM director provided a document related to the NCAM’s new organizational chart. According to the director, the proposal was sent to the government for approval without any precision regarding the timing of the approval and the implementation of the structure at administrative levels.

Consequently, the mission recommends that NCAM submit more information regarding this matter and its state of progress.

4.4.1 The Current Structure

![Diagram of the NCAM's current structure](image-url)
The structure consists of one focal point which is the Director General to which is directly related three main departments in addition to the administration. The departments are: 1) Archaeological investigations, 2) Conservation Labs and 3) Museums.

Under administration, exists the different sections related to the archives, human resources, accounting, public relations, media, training, etc.

This existing administrative structure is modelled after classical and traditional public institution models, which is very common for Arab countries. It is a rule culture structure where all the hierarchy is linked to one person, the Director General. In other terms, the Director General is always needed to solve each and every issue on different levels of the administration. This situation usually limits the productive capacities of the higher hierarchical levels of the administrative structure, which spends much time solving administrative and internal issues. Consequently, this structure does not ensure the needed flexibility to cope with emergencies, nor with large projects of rehabilitation and management of huge heritage entities like World Heritage properties. It is dimensioned for daily site and staff management on a small scale.

In other terms, within the framework of the existing administrative structure, the Director General cannot fully work on strategies and developments needed in a modern-day heritage management authority.

**4.4.2 New Proposed Structure**

The proposed new structure is not very different from the existing structure. The only change is the creation of a new position of a Deputy Director who is responsible for all the administrative and staff management. This person, with his new functions, will relieve the Director-General of all the administrative and staff issues. The Director-General’s work would
be concentrated on quality control and the follow-up of legal matters in addition to the management of the regional offices within which the World Heritage properties are included.

Nevertheless, the structure in itself is not the only problem faced by heritage management in Sudan. The main issue is the quantity of available employees, on the one hand, and the quality of the professional capacity of these personnel on the other.

**Recommendations**
Concerning the new reforms on the administrative level, the mission recommends to draw more emphasis on the upgrade of the capacity of the personnel and the recruitment of new efficient and knowledgeable people who can address heritage modern needs, namely regarding World Heritage properties.

### 4.5 Management Structure

The management of the properties is carried out at national level. At present, the NCAM has a small office located at Gebel Barkal in conjunction with the local site museum, with a resident site manager assisted by a small team composed of one curator, one field inspector in charge of El-Kurru site, two technicians and one office assistant. The office is poorly equipped. No offices exist in the other four sites that are part of the serial World Heritage property. The site manager is also the inspector in charge of all cultural heritage sites located in the State of Northern Sudan.

According to the 2011 Reactive Monitoring mission, “a Management Council has been established and a resident site manager has been appointed. He is assisted by a group of technicians. A management plan was prepared in 2007 and approved in 2009. Also, it was reported by the mission that the Management Council will attract foreign partners to contribute to the ongoing efforts for the preservation of the archaeological heritage of the sites.”

After discussion with the management team on site, it became clear that this Management Council has never functioned and the management plan has never been implemented. This is due to the lack of personnel and the capacity of the present management team to cope with the tremendous workload they already have on the level of the northern state level.

**Recommendations**
The Mission believes that a proper recruitment must be done on the NCAM executive level and target people with heritage management degrees and communication skills in order to handle the matters related to the World Heritage properties in Sudan. Consequently, the above-mentioned Management Council will be able to be formed and will eventually play a central role in the proper implementation of the management plans and do the necessary coordination with the different stakeholders.
5 STATE OF CONSERVATION OF THE PROPERTY

5.1 GEBEL BARKAL SITE

5.1.1 The Temples

The state of conservation of the exposed monuments in the Gebel Barkal site is precarious. The stone fabric, as well as the few remaining wall plaster patches, are degrading in different locations of the monument such as the earlier restorations done with inappropriate material, Portland cement (see fig. 4). The degradation is present at both structural and surface levels, and this is due to a combination of factors.

In this regard, the mission notes a difference in the State of conservation of individual archaeological structures, the areas curated by the national authorities in general are in a very degraded state of conservation compared to those structures researched and treated by international teams, which, to a certain extent, are better maintained.

This situation is extremely severe in the pyramids area and the area under the direct responsibility of NCAM (Projects 15a and 15b on the map). In the Mut rock cut temple, as well as in the palaces, the different Italian missions are applying protection and conservation measures correctly with satisfactory results.

Fig.1: Map showing the different archaeological areas and its distribution to the various expert missions

The different causes of deterioration shall not be discussed here: these were extensively explained by the 2011 mission report and are still present and will remain so at the archaeological remains until proper solutions are undertaken as explained further in the present report.

As explained by the 2011 Reactive Monitoring Mission, these factors that either act individually or in combination were summarized as follows:
1. **Natural erosion resulting from windblown abrasive particles, from the passage of water, from the pressure resulting from the repeated crystallisation cycles of soluble salts and from thermal cycling causing stress failure of faults in the substrate.**

2. **The action of visitors to the structures, historically when using the structures for shelter and animal husbandry, from the removal of masonry for reuse in modern structures, and more recently from tourists inappropriately interacting with the structures (such as carving graffiti into historic surfaces).**

3. **The archaeological excavations that have not adequately addressed the need for conservation of the exposed archaeological remains and from poorly designed conservation interventions using inappropriate techniques and materials and undertaken by inadequately trained conservators.**

The mission notes that today, the situation is beyond the handling capacity of NCAM. Consequently, the previous recommendations of the World Heritage Committee cannot be addressed by the State Party, not because of the unwillingness of the State Party but because of its incapacity to do so.

The effects and debris of regular flash floods are visible in most of the structures, namely those closer to the edge of the mountain cliffs. There is no drainage system to divert the water runoff.

The reburial of the Great Amun Temple, which is of vast proportions and has suffered severely from flooding and erosion as well as scavenging, has not been carried out correctly. Major parts of the temple structures are still exposed, and their degradation is still in progress. Moreover, the partial reburial of the endangered structures has brought their degradation to a higher level. Previously, the deterioration was occurring in the lower few courses. After the reburial, the same pattern of degradation is happening at the level of the upper stone courses, which are today on the limit of the backfill. This degradation pattern is resulting from a combination of intermittent salt followed by wind erosion. Consequently, the partial reburial has brought this erosion phenomenon to the level of the higher courses of the structure, which were previously under threat from one element but are now threatened by a more complex dynamic.

**As a result, the partial reburial of the Amun temple as well as the other structures is doing more harm to the apparent features. This is due to the improper application of the reburial standards ignoring best practice experiences in this field.**
Fig. 2: View from Gebal Barkal to the Amun temple complex and nearby structures (A. Seif)

Fig. 3: Eroded mudbrick structures of complex B1200 due to partial reburial (A. Seif)
Fig. 4: Deterioration due to previous bad restorations using incompatible materials – Amun Temple (A. Seif)

Fig. 5: Partial collapse of the first pylon external wall – Amun Temple (A. Seif)
5.1.2 The Pyramids

The pyramids are in a similar degraded state of conservation as the reburied structures. Most of them have transformed into heaps of rubble after their outer shell stones were robbed/removed. The remaining pyramids suffer equally from the same elements stated
before, *i.e.* weathering agents and visitation pressure in addition to lack of regular maintenance.

Some of the pyramids that were reported to be in a stable condition during the 2011 mission, today present signs of degradation. Some have even lost part of their stones and structural material. The most affected areas are the remains of the pylon gates in front of the pyramids.

*Fig. 8: Example of a pyramid transformed into a heap of rubble through a long degradation process (A. Seif)*

*Fig. 9: Example of the deterioration process in one of the Pyramids (A. Seif)*
Fig. 10: New destruction of one of the still-standing Pyramids where the recuperation of the outer shell stones has led to the collapse of one corner with loss of the inside fill material (A. Seif)

Fig. 11: Example of the state of deterioration of one Pyramid with the remains of its Pylon gate (A. Seif)
Fig. 12: Another example of the deterioration of the remains of a Pylon gate (A. Seif)

Fig. 13: Another example of the deterioration of the remains of a Pylon gate (A. Seif)
Fig. 14: Photo taken by the 2011 mission of 20th-century repair work

Fig. 15: the same feature inspected in 2011 is still stable. Nevertheless, a new undercut below the first stone course could easily jeopardize the entire corner (A. Seif)
5.1.3 Active Conservation

As the antipode of this degradation scene, many conservation attempts and efforts are to be praised and encouraged.

A joint mission of the Instituto Superiore per la Conservazione ed il Restauro in Rome and NCAM, directed by Maria Concetta Laurenti, Claudio Prosperi Porta, and Iglal el-Melik, are working to restore the rock-cut Mut Temple.

The work is being implemented in a very professional manner, respecting all the international regulations and standards.
In addition, a mission of the University of Venice ca’ Foscari, directed by Emanuele Ciampini, is working on the Meroitic palaces. In Palace B1500, a new waterproof plastered cover, which should ensure the protection of the walls, and a better understanding of the structure as well, is being implemented by the mission conservators. Alongside them, workers from NCAM in addition to others from the area are learning the techniques so that they can execute them
later. The next step planned by the team is to use a similar approach for the restoration of the edifice B3200.

In the report submitted by the State Party to the World Heritage Centre in 2019, it is mentioned that if the test in the south-western sector of the palace platform is successful, it is planned to implement this approach in the principal edifices of the Royal City.

![Fig. 19: View of the walls and monument protection of Palace B1500 (A. Seif)](image)

### 5.1.4 Recommendations

Before attempting to carry out any major conservation or restoration intervention, a monitoring system should be implemented on the site (as on the other component sites of the property). Only long-term monitoring would allow the detection of the nature and the speed of the degradations.

In parallel, a systematic damage assessment should be carried out for all the structures on the Gebel Barkal site in order to determine the intervention priorities. This would lead to a comprehensive conservation plan for the Gebel Barkal monuments, and should be incorporated into the Future Actions Plan.

The conservation approach of the Italian team on the Meroitic Palace B1500 could serve as a best practice alternative to the reburial of the monuments for their temporary protection. However, in all cases, this intervention type must not have an adverse visual impact on the authenticity of the property.

Any further conservation interventions on the site should be discussed on a broad-international level among conservation specialists and the results incorporated into the conservation strategy for the property. The mission urges the State Party to create such a conservation strategy document that should be shared with the World Heritage Centre and the Advisory Bodies before any implementation takes place on a large scale.
5.2 NURI

The site of Nuri consists predominantly of pyramids similar, but not identical in their construction, to those of Gebel Barkal. The pyramids, made of coarse grains soft stone, reflect considerable age and erosion that is more significant on the north-eastern faces that are exposed to sandblasting by winds blowing N/NE to S/SW. Some of the pyramids look more like mounds, having suffered for over 2500 years from environmental and human factors, including the removal of stones used as building material.

There is still no visible sign of any conservation treatments having been applied to any of the monuments at Nuri.

The comparison of the condition of a pyramid on the site illustrated in the 2004 and 2011 mission reports shows that no discernible change has occurred.

Fig. 20: Photo of one of the Nuri Pyramids taken by the 2004 WHC mission
From this perspective, it can be assumed that the monuments are still in a stable state of conservation and that the rate of deterioration at the site does not seem to have accelerated. Nevertheless, the photos of the 2004 and 2011 missions were taken towards the south/east face of the pyramid, not the north/east face. This latter is the most exposed to the windblown sandblasts that gradually affect the surface of the stone. Consequently, the results will be devastating in the long term as it can be observed from many examples (see Fig. 23 and Fig. 24).
Fig. 23: Photo of a degraded pyramid with its north side exposed – long term degradation (A. Seif)

Fig. 24: The heaps of rubble resulting from the degradation of the northern faces of some of the Nuri Pyramids (A. Seif)

The Mission was not able to see the re-exavation works carried out at the Tomb of Yeturow (Tomb Nu. 53) and could not meet the mission from the United States of America who had already concluded for the season.
5.2.1 Recommendations

Before attempting to carry out any major conservation or restoration intervention, a monitoring system should be implemented on the site (as on the other component sites of the property). Only long-term monitoring would allow the detection of the nature and the speed of the degradations.

In parallel, a systematic damage assessment should be carried out for all the structures on site in order to determine the intervention priorities. This would typically lead to a comprehensive conservation plan for the component.

Any further conservation interventions on site should be discussed on a broad international level among specialists and the Advisory Bodies, and the results incorporated into the conservation strategy for the property, before any implementation takes place on a large scale. In this sense, the mission recommends that the approach adopted in the conservation of the Meroe pyramids, as well as the Nagaa temples, be researched to see if it could be applied to the Nuri component. This method proved its efficiency over a period of ten years of application.

5.3 EL KURRU

5.3.1 The Conservation of the Wall Paintings

Only two tombs at El-Kurru have retained their painted decoration: the tomb of Queen Qalhata and the tomb of her son, King Tanwetamani. In both tombs, the painted decoration has disappeared from the lower parts of the tombs’ walls due to earlier inundations of the burial chambers. Today, the situation is stable after the construction of shelters for the tombs and their isolation from the potential dangers of the seasonal rain and flash floods.
The conservation of the wall paintings is implemented by a conservation team from University of Michigan and the University of Copenhagen (no report was delivered to the mission). The Mission inspected the works, which are being implemented according to the international standards following ICOMOS Principles for the Preservation and Conservation/Restoration of Wall Paintings.

The mission applied Infrared Photography, using a FLIR C2 Thermal IR based camera, to examine the condition of the wall painting in the different sections of the tombs. The results
indicate a stable situation in humidity and temperature despite the temperature and humidity fluctuation of the outside environment.

Consequently, until further notice, the shelters constructed over the tombs and their treatment are effective in protecting those features. The only inconvenience is the visual encroachment these two shelters could cause and the authenticity issues they could create. Nevertheless, their presence has proved their efficiency in protecting the wall paintings by providing them with environmental stability.

A project to improve access to the two painted tombs was discussed with the mission team during the mission. Analysis of this project can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.

### 5.3.2 The Cover for the Staircase of Pyramid Ku.1

As explained in the State Party’s 2019 report on the state of conservation, the International Kurru Archaeological Project (IKAP) project architect has designed a cover for the staircase of Ku. 1. The aim was to keep the burial chambers of the pyramid open without filling them with sediment or rainwater from the rain floods. The cover was designed to be in the same level with the ground surface in order to avoid any visual impact on the integrity of the site, but also to provide comfortable and safe access to the underground chambers by way of a metal staircase set on the pyramid steps.

The mission considers the shelter over the staircase of the pyramid to be effective with hardly any visual impact on the site.

Additional analysis of this project can be found in the relevant ICOMOS Technical Review.
included in annexe 8 of this report.

Fig. 29: Cover for the staircase of pyramid Ku. 1 (A. Seif)

5.3.3 The Shelter over the Mummification Structure

Between 2013 and 2016, the International Kurru Archaeological Project (IKAP) excavated a semi-subterranean funerary temple from the 4th century BCE at El-Kurru. The structure is built in a former sandstone quarry. It is composed of six underground rooms dug into the rock, and new stone blocks were used to build a wall dividing the quarry into two rooms, the larger of which contained 26 columns that originally would have supported a partial roof. IKAP, in order to protect this newly discovered archaeological structure, proposed to place a shelter over the open part of the structure (where the partial roof was originally placed). It also proposed to build a wall against the adjacent wadi for the protection of the structure from the rain floods.

Based on these proposals, the State Party was requested by the World Heritage Committee, with Decision 42 COM 7B.59, to provide detailed information and documentation regarding this matter to the World Heritage Centre for review by the Advisory Bodies. The State Party included the needed information in its 2019 report on the state of conservation, which is composed of two parts. The first concerns the wall that is already built against the wadi and the plans for the protective shelter to be built over the open part of the structure.

According to the State Party’s 2019 report, the wall that was built against the adjacent wadi was very effective in the 2018 summer flood. Photos were included in the report showing the flood and the protection the wall gave to the archaeological structure.

During the inspection of the site, the Mission was surprised to see that the protective shelter over the mummification temple was in its late stages of construction.
The roof structure of the shelter is made of a series of parallel trusses made of interconnected steel elements. This roof structure works as a bridge over the archaeological features to be protected without needing any supporting pillars inside, on the archaeology. The roof structure will be supported on two sides by a series of interspaced iron H shape pillars framed together and based on the edges of the archaeological structure’s limits. Today (see fig.30) the Roof is still resting on its temporary pillars for construction reasons and to limit the accidents, if any, over the archaeological discovered features. Once finished, the roof structure will slide down over the supporting structure where it will be set permanently.

Although from a structural point of view the shelter is well planned, the supporting metallic structure, which also acts as a fence for the archaeology, is very visually intrusive. It looks like a jail cage surrounding the very precious newly discovered archaeological feature.

*Fig. 30: Overall view of the shelter and the structure (the shelter should slide down on the structure to its definitive place once its construction is finished) (A. Seif)*
5.3.4 Recommendations

The Mission notes that IKAP should have waited for the feedback of the Advisory Bodies regarding the shelter before its implementation. The Mission also notes that lighter elements could have been used for protection without jeopardizing the visual integrity of the site. Furthermore, there are no indications regarding the drainage system to be adopted once the shelter is finalized. Clarification on the reversibility of the structure and drainage of the roof should be submitted to the World Heritage Centre for evaluation by the Advisory Bodies.

Additional analysis of this project can be found in the relevant ICOMOS Technical Review included in annex 8 of this report.

5.4 SANAM

The site of Sanam is located at the centre of the town of Merowe. It is surrounded by asphalt roads and buildings and delineated by a protective metal fence.

Most of the site remains are unexcavated, and areas that were excavated in the beginning of the 20th century have been reburied. There are three archaeological remains visible today:
- A 267 x 68m building called the ‘Treasury’, partially re-excavated at the time of the Mission and presumed to be a former workshop (Area 1),
- SAK 300, a 39 x 35m fully re-excavated building presumed to be a former storage room (Area 1),
- The 61.5 x 41.5 m Temple built by Taharqa and located at the southern edge of the site in a pocket surrounded by a village (Area 2).

The site is being excavated by the Italian mission under the direction of Irene Vincentelli.
Sections of the warehouse remains were discovered and protected by adding a layer of mudbricks over the original walls and sand spread over the original floor surface. Furthermore, additional fencing is built around the already excavated and conserved structures for enhanced protection.

5.4.1 **Shallow Archaeological Features Apparent on the Surface**

In addition to the excavated features, many parts of the archaeological warehouse are appearing on the surface of the site and are degrading due to trampling by people and motor vehicles passing through the fence inside the site.

The pace of the excavations and the conservation works going on at the site cannot cope with the urgent need for their preservation.

*Fig. 32: View of some of the shallow archaeological features (A. Seif)*
5.4.2 The Fenced Monuments

At the Treasury, and especially at SAK 300, the remains of the columns were found to be in critical condition, submitted to the pressure of erosion at the same time as they were exposed to weathering.

Floors are of a particularly good condition at the Treasury and of poorest composition at SAK 300. The archaeological works carried out at both sites by the Sudanese-Italian mission are of good quality. The Sudanese-Italian mission has covered the remaining excavated structures with adobe to ensure their preservation and presentation to the public. The protection works accomplished in 2015 are in a stable condition, which testifies to the quality of the protective works.
5.4.3 State of Conservation of Sanam Temple

The temple built by Taharqa is threatened by erosion. The friable sandstone construction and strong winds, in addition to salt migration by capillary action with the quick accumulation of windblown sand, are a permanent threat to this monument. The comparison of the condition of a column at the site illustrated in the 2004 and 2011 mission reports shows that slight changes to the surfaces of the column have occurred at its bottom, consisting of undercutting due to partial loss of material. This degradation is very slow but presents a real threat to the monuments due to the lack of regular maintenance.
Furthermore, it is known that this type of degradation is caused by the combined action of seasonal salt migration due to capillary action followed by wind erosion. This pattern is repeated in different parts of the site (and other sites within the World Heritage property). In all cases, in order to better understand the degradation pace and process, it is required to install a close monitoring system on site.

Fig. 36: One of the columns at the Sanam Temple photographed by the 2004 mission

Fig. 37: The same column photographed by the 2011 mission
5.4.4 Recommendations

- All shallow archaeological features apparent on the ground should be backfilled temporarily until their excavation and conservation.
- The motor vehicles access to the Sanam component should be stopped entirely.
- To better understand the degradation pace and process, a close monitoring system should be installed on site.
- A similar approach to that proposed at Nuri should be adopted.

5.5 ZUMA

The cemetery site of Zuma is a large area delineated by cement plots that contains about 29 tumuli of different size, type and state of conservation. It is bordered on the east and south sides by the village of Zuma and some infrastructure equipment.

The state of conservation of the tumuli group in Zuma is in an acceptable state for the time being. Nevertheless, the uncontrolled visitation and site crossings by people and motor vehicles are leaving traces everywhere on site. Consequently, this could lead, in a very short period, to a serious damage if not dealt with properly.
The mounds are beginning to be affected by visitors climbing over them. Their original simple fill material is degrading and accumulating on the surface at their base. The excavated tombs that are left open are covered with a metallic mesh. This protection is not sufficient for ensuring the security of the below features on the one hand, and on the other, it allows the entrance of rainwater inside the tomb chambers causing lots of damage.

5.5.1 Recommendations

A stronger and less invasive protective cover should be managed to cover the tomb chambers even if it is similar to the actual one but more studied for handling greater loads. As for the protection from the rainwater, a temporary rain shelter that is placed during the rainy season has to be thought of.
6 IDENTIFICATION OF ISSUES AND THREATS AFFECTING THE PROPERTY

6.1 GEBEL BARKAL SITE

6.1.1 Site Boundaries

The delimitation of the boundaries of the Gebel Barkal component as well as the other components (see further) is a major issue for the inscribed serial Property. Already the World Heritage Committee raised the issue of the need to identify the boundaries of the five component parts in accordance with the standards identified in Annex 11 of the Operational Guidelines (40 COM 7B.28; 42 COM 7B.59). The Mission analyzed the documentation provided by the State Party in an attempt to explain this issue. The maps provided with the inscription file are unrectified aerial photos on which a series of drawn polygons act as the limits of the different components of the Property. Furthermore, the various versions of the maps provided by the State Party to the 2011 Reactive Monitoring Mission give different limits than the original nomination documents. Moreover, when the 2019 mission mapped the actual boundaries on site which are physically represented by the concrete poles implanted on the ground, the results were also different than all the previously mentioned documents/mediums. After the analysis and study of the different documents provided by the State Party, in addition to the overlay of the different boundaries over satellite imagery, the situation is summarized as follows:

The 2003 aerial images (not maps) provided with the nomination for inscription delimited the boundaries of the property without any indication of the buffer zone. The area of the buffer zone is mentioned in the textual description of the nomination file as being of 40 hectares in addition to 14 hectares as an extension to the Nile without any additional piece of information.

In 2006 a road was constructed inside the boundaries. Since that date, the road was considered by the State Party to mark the limits of the property. The maps provided by the State Party to the 2011 Reactive Monitoring Mission marked this new delimitation with precise geographic coordinates on a map indicating as well as buffer zone (see Fig. 43).

Additionally, another modification to the limits of the property was introduced to the south-east of the property where the cemetery was excluded.
Later, the State Party physically delimited the property boundary on the ground with short concrete poles following the modified delimitation, i.e. taking the road as the limit of the property. The buffer zone was not physically delimited due to lack of funds, on the one hand, and on the other, to a controversy with the local authorities.

According to the SOC report sent by the State Party in 2019, the completion of the delimitation was prevented by the Karima and Meroe Town Authorities, which already sold the land that was considered in the 2009 plans as buffer zone. The land was sold for development.
An overlay of all the different boundaries on a satellite image of the site clarifies the situation and gives a good insight into the understanding of this discrepancy.

![Jabal Barkal Boundaries](image)

**Fig. 44: The different overlaid limits (A. Seif – based on Google Earth)**

* Cyan polygon: Site boundaries provided in the nomination file.
* Green polygon: Limits of the component as provided by the SP to the 2011 mission
* Blue polygon: Limits of the buffer zone as provided by the SP to the 2011 mission
* Red polygon: Plotted limits of the site as mapped by the 2019 mission

In brief, the site was delimited in the 2003 nomination file (*Cyan polygon*) without a proper delimitation of the component’s buffer zone, which was only described and its surface provided. Later, in 2006, a road was constructed inside the site, which led the State Party to consider the component’s boundaries as reduced without notifying the World Heritage Centre. The new ‘unofficial’ site boundaries (*Green polygon*) and a so-called buffer zone (*Blue polygon*) were recorded on maps and presented to the 2011 Reactive Monitoring Mission without any official boundary modification procedure (Annex 11 of the *Operational Guidelines*). Later, the new ‘unofficial’ site boundaries were physically delimited on the ground (*Red polygon*).

### 6.1.2 Management & Staff

As stated earlier in the present report, the staff responsible for the site of Gebel Barkal have a manager who is also the inspector in charge for all cultural heritage sites located in the State of Northern Sudan. His team is composed of one curator, three technicians and one office assistant. With a limited capacity, they are responsible for the management of all five components of the World Heritage property.

Consequently, the management tasks are beyond the capacity of the present management team.
6.1.3 Management Infrastructure

The management team does not have an adequate infrastructure. The offices are the recuperated facilities of the early twentieth-century dig houses inside the property to the north of the Gebel Barkal Site. They do not have the minimum requirements to offer an adequate working environment for the management team.

![Image](image_url)

*Fig. 45: The Excavation Department (A. Seif)*

6.1.4 Warehouses

The warehouses are located in one of the halls of the previous dig house facility. They do not offer an adequate environment for even the short-term storage of the excavation objects. Furthermore, the objects are stored randomly without a proper registration and handling because of the lack of appropriately trained staff. The two managers do not have the time to properly look after these warehouses, better described as storage places. Consequently, objects are deposited there without minimum markings. Instead, simple papers with minimum information are placed on the objects in order to determine their place of discovery.

Moreover, the few shelves present are not adequately managed, and most of the objects are stacked on top of each other without any respect to their weight and material type.

The only few objects that can be considered safe to a certain extent are those handed over by the different excavations in metal boxes, for which a list of the contents of each box is present inside of it and the box number is registered on the outside.
Fig. 46: View of the warehouse / storage facility with the paper labels shown on the objects (A. Seif)

Fig. 47: State of the deposited objects inside the warehouse/storage facility (A. Seif)

6.1.5 Security and Fencing

The site has six guards from the tourism police to ensure protection and security. For a 170-hectare site, this number is not enough. Additionally, there is an absence of any security infrastructure and fencing.
Furthermore, the warehouses, as well as the site museum (explained later in this report) have glass windows on the top level of all their walls. Those windows are easily breakable, making their presence an additional security risk factor, and they do not prevent rainwater infiltration inside the rooms.

![Image](image.png)

*Fig. 48: View of windows on the top of the walls of the storage – the same situation is present at the museum – the traces of water infiltration is evident on the walls (A. Seif)*

### 6.1.6 Visitors Management

There is no visitor management plan or structure on the site. Furthermore, the absence of proper fencing compels tourist cars to drive inside the site where the different archaeological structures are present. This trend is common practice at the site and is practised without any prohibition from the management team or the police due to the lack of resources and initiatives.
Fig. 49: Tourist agencies cars driving inside the site, only a few metres from the pyramids (A. Seif)

Fig. 50: Tourist agencies' cars parking inside the site, only a few metres from the hill of Gebel Barkal (A. Seif)
6.1.7 The Site Museum

The site museum hosts a small collection of statues, architectural elements and objects found within the different excavations carried out on site. In addition, a reconstructed tomb is located inside one of the museum chambers. Although informative, the museum needs a total upgrade on different levels. The museum structure lacks the basic requirements for safety and security as well as the proper conservation environment for the exhibited artefacts. The objects are poorly displayed, and most of them are broken and in very precarious state of conservation. Furthermore, there is no comprehensive database of the exhibited objects within the reach of the management team.

All the matters mentioned above demonstrate the precarious situation of the site museum, resulting in severe risks for the exhibited features. The structure of the museum needs to be rethought, and the transfer of the entire collection to another, more suitable location should be considered.

The mission recommends to reconsider the funds dedicated to the Museum and storage upgrade. Instead of proposing a repair of this museum structure, the focus should be laid rather on the documentation and conservation of the museum objects.

The structures themselves, as well as the proposed new visitors centre, do not follow any particular presentation strategy. The mission recommends to remove from the property these structures which currently stand isolated at the western part of Gebel Barkal. New buildings should be adequately built at the outer limits of the property. The adequate new location needs to be identified along with a reflection on the tourism management of the site. These new buildings have to merge with the local architecture and offer the needed facilities to visitors and staff.

Additional analysis of this project can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.
Fig. 51: One of the museum halls with precarious showcases (A. Seif)

Fig. 52: Close view of one of the museum’s precarious showcases (A. Seif)
Fig. 53: One of the museum halls with some exhibited objects – See the windows on the top of the walls (A. Seif)

6.1.8 Visitor Centre

The construction of the visitor centre building was almost complete at the time of the mission’s visit. The visitor centre is located beside the Gebel Barkal site museum. Analysis of this project can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.

6.1.9 The Gift Shop

The gift shop is located between the Museum and the storage facility. It is a small metal container that has been transformed into this function. Although the gift shop’s conditions are precarious, the items exhibited inside are very interesting and could be attractive to the different visitors. With a small upgrade and transfer of the shop to a more adequate structure, the situation will be tremendously uplifted and will allow the shop to properly serve its function.
Fig. 54: View of the metal container that functions as a gifts shop (A. Seif)

Fig. 55: View inside the gift shop and its keeper (Y. Tabet)
6.1.10 Waste Management

Waste management is a significant challenge for the management unit on site as well as on all the other components of the World Heritage property as elaborated in the following sections.

There is no proper waste collection plan on the municipality and governorate levels. Consequently, the produced domestic waste is dumped randomly inside empty spaces namely the archaeological areas. This waste is then blown about by the wind and spread all over the sites.

Some private initiatives are present on-site during the presence of the foreign missions, who clean the areas in which they need to work. The collection of the waste is carried out by the workmen of the excavations and transported in small pick-up trucks outside of the sites.

The destination of this collected domestic waste is unknown for both the management team and the different foreign teams who subcontract the lorry drivers for these cleaning missions.

Fig. 56: Litter near Temple B900 (A. Seif)
Fig. 57: Litter inside the eastern area of the property – In the background the subcontracted lorry and the workmen cleaning the litter from the excavation area (A. Seif)

Fig. 58: Litter is mainly plastic and organic that does not disintegrate due to the low humidity and high temperatures (A. Seif)

6.1.11 Wind and Sand Erosion

One of the major threats to the material of the property is the wind-blown sand, which is a consequence of the increasing desertification of the area. It is affecting the exposed
structures, but these effects are only discernible in the long term if thorough monitoring is adequately applied for the different structures on site.

6.1.12 Flash Floods

Flash floods are becoming more and more dangerous, since they are occurring repeatedly on site due to climate change.

During the last rain flood of 2018, a quantity of stones and boulders fell from the cliff and were transported inside the site. The impact of this material, in addition to the flood itself, incurred much damage to the exposed archaeological structures.

Temple B600 and part of Temple B700 were heavily affected by these elements, and part of B600 wall was destroyed.

If this phenomenon continues, which seems likely to happen, further damage to the different monuments of the World Heritage property will occur. Consequently, the integrity and the authenticity of the property will be seriously jeopardized.

Recommendations

The State Party should undertake a profound assessment on the hydrogeological conditions of the site, in a more global process of risk preparedness, aiming to find solutions and remedial measures on how to tackle floods. This approach should be drafted as an urgent action to be undertaken in an inclusive Action Plan.

Fig. 59: View to the west of Temple B600 showing the damage inside the inner chamber (A. Seif)
6.1.13 Wild Dogs

During the visit to the temples site, the mission witnessed a significant number of wild dogs scavenging in the area and digging burrows inside the archaeological structures. Although seen as a normal part of the landscape by the NCAM officials responsible for the site, the impact of the damage that these dogs can do to the fragile mudbrick structures and other
archaeological features can be tremendous if this situation continues without proper solution.

Fig. 62: A wild dog going out of its burrow inside structure B1200 (A. Seif)

6.1.14 Ground Transport Infrastructure

The issue of the road that was constructed inside the property in 2006 brought with it many additional intrusions, namely the electric network lines and the different related infrastructures. Furthermore, in the future, this road will attract constructions on the sides, which will alter definitively the environment of the site; which in turn will be a direct threat to the property’s integrity and the authenticity.

6.1.15 Urban Encroachment

The hotel construction in front of the western pyramids presents a real threat to the property’s integrity and authenticity. The Mission was told that the development was stopped for unknown reasons. Nevertheless, by being there, it presents a visual encroachment on the integrity of the landscape in the Gebel Barkal site.

Recommendations

The mission recommends to completely remove this hotel structure and include the area within the Buffer zone of the site.
6.1.16 The Festival Area and Structures

The festival infrastructure, implemented in recent years inside the south-eastern side of the component site presents a confirmed threat to the property. Lighting poles and remains of the stage structures encroach heavily on the landscape and are visually obtrusive to the site. Furthermore, the collateral damage resulting from the festive gatherings could jeopardize the integrity of the property. The location of the area is around 150 metres from the different archaeological complexes. Due to the limited security and safety provisions, any excessive behaviour and vandalism especially during festival activities cannot be noticed and stopped on time.
Fig. 64: View of the festival structures (A. Seif)

Fig. 65: View of the festival structures (A. Seif)
6.1.17 Modern Cemeteries

The cemeteries present at the southern edge of the site are divided into three groups. Two are for adults, and one is for children. The location of the cemeteries is essential to the local inhabitants because of the presence of the mausoleum of Sheikh Wad el-Karsani. Consequently, it is in the tradition of the people to bury their dead near the Sheikh. Today, according to the local archaeologists, the adult cemeteries have been transferred to another location, and the only cemetery that is still in use is the one dedicated to children.

The cemeteries were present during the inscription, and were included inside the property as defined by the 2003 nomination documents. However, in 2009, they were not mapped as part of the property.

Nevertheless, the new physical delimitation of the site using concrete poles runs along the eastern edge of the site and includes the cemeteries inside the property.
Fig. 67: View of the cemeteries with the mausoleum of Sheikh Wad el-Karsani in white (A. Seif)

Fig. 68: Closer view of the cemeteries with the mausoleum of Sheikh Wad el-Karsani in white (A. Seif)
6.2 NURI SITE

6.2.1 Site Boundaries

The 2003 ‘maps’ delimited the boundaries of this component without any delimitation of the buffer zone. No buffer zone was mentioned in the nomination file, but only the property, with an area of 17 hectares.

Fig. 69: Aerial view mapping the property’s component provided in the nomination file in 2003.
By 2011, the development of the agricultural lands encroached over a small section to the west of the component.

This was not mentioned during the 2011 Reactive Monitoring mission during which a completely new map was presented by the State Party. This new map of the component does not resemble in any way the 2003 nomination map.

In the new map, the site limits were traced according to the new S/W-S/E tarmac road to the south of the site and the dirt road that runs S/W-N/E on the western edge of the site. To the east, the edge line of the component site was traced along the western edge of the scattered houses of the Nuri village.

In 2015, the State Party physically delimited the component site boundary on the ground with short concrete poles following the modified delimitation, i.e. according to the map presented to the 2011 Reactive Monitoring mission.
Fig. 71: The different overlaid limits (A. Seif – based on Google Earth)

Cyan polygon: Site boundaries provided in the nomination file.
Red polygon: Plotted limits of the site as mapped by the 2019 mission

For the moment, the site has kept a high level of integrity and presents a reasonably pristine landscape. The features of the site are concentrated in the centre of a 17-ha site area, which could be considered a sufficient size. On the north-west side of the site, facing the entrance, a few buildings that were present before the inscription of the property have a visual impact, though limited, on the integrity of the property. However, especially given the fact that the site is surrounded by villages, any large-scale development in the urban surroundings could have a profound visual impact on its integrity as well as the visitor’s experience.

6.2.2 Urban Encroachment

Many houses in the nearby Nuri village are constructed on the exact limit of the site boundary. Although these constructions are still just outside the site; nevertheless, at any moment, new structures may be built inside the site boundary.

Recommendations

The mission recommends to set up a master plan defining the desired and unwanted forms of developments with urban planning regulations and mechanisms to protect the integrity of the WHS from urban and regional development.
6.2.3 Groundwater

As stated earlier, the Mission was not able to see the re-excavation works carried out at the Tomb of Yeturow (Tomb Nu. 53) and could not meet the US mission, who had already concluded for the season. The State Party’s 2019 report on the state of conservation raises concerns about rising groundwater at subterranean features at Nuri (three to five vertical metres since Reisner’s excavations).

In the 2019 report on the state of conservation, the State Party relates the rise in the groundwater levels to the construction of the Fourth Cataract Dam. Nevertheless, the present mission is inclined to consider a more direct cause of the groundwater rise, which is related to the nearby agricultural fields. In these fields, the irrigation methods use the water flooding technique. Usually, by using this technique, a small percentage of the water is caught by the crops where most of it goes to the underground layers. Furthermore, by adopting this irrigation system, the frequency of irrigating the fields is higher. Consequently, the frequency of irrigation needed by the crops will result in more quantities of water infiltration to the underground layers, contributing to the increase in the underground water table.

In order to have more insight into this matter, the 2019 mission requested a geological report describing the nature of the underground layers at Nuri. It would also be important to know when the groundwater levels began to rise. This information has to be correlated with the beginning of the use of the nearby land for agriculture. Nevertheless, further advanced studies are needed to ascertain the origin of the groundwater rise in this site.

Recommendations
A systematic hydrogeological study is needed in order to investigate and understand the dynamics involved in the rise of the ground water table and eventually propose proper solutions for the protection of the subterranean features at Nuri.

6.2.4 Domestic Waste

The Mission witnessed a large amount of domestic waste (bottles, plastic bags, etc.) windblown to the area of the archaeological features, leaving an impression of litter and neglect.

The origin of this waste is the Nuri village situated to the North/East and Eastern side of the site. The community dumps its waste and burns it in a location situated to the north of the site. The wind transports all light waste elements towards the interior of the site.

![Fig. 73: Domestic waste windblown to the pyramids area (A. Seif)](image)

6.2.5 Site security

The site is controlled by one guard and one policeman for 24h shifts, carried out with another team, which is clearly insufficient to protect the site given its size, its vulnerability and porosity. The State Party’s 2019 report indicates that a small WC was built with local materials, for the guards of the site. The Mission also witnessed a container being placed beside the guardhouse. The Mission was told it was put there for logistical reasons.
6.2.6 Motor Vehicles Access

The porosity of the site boundaries facilitates access for motor vehicles inside the property. This type of circulation is not limited to cars and touristic vehicles; the property is also travelled by heavy mechanical machinery, *i.e.* lorries, bulldozers and shovel-trucks, etc.
Fig. 76: Buildings in front of the entrance and shovel-truck crossing the northern part of the site (Y. Tabet)

6.2.7 Visitors management

The site is currently less well known than Gebel Barkal, and consequently, it receives fewer visitors. However, increased and uncontrolled tourism activities at the site will definitely have a significant impact on the conservation of the site, given the vulnerable nature of the structural material of the pyramids. As for the signage, it is almost inexistenent and is reduced to one panel indicating the name of the site.
6.3 EL KURRU SITE

6.3.1 Site boundaries

As for the other sites, the 2003 ‘maps’, presented along with the nomination file, delimited the boundaries of this component without any delimitation of the buffer zone. The area of the buffer zone is simply mentioned in the nomination file as being of 6.5 hectares with the component area of 4.5 hectares.

Fig. 78: Aerial view mapping the property’s component provided in the nomination file in 2003.
A new delimitation was represented on the maps provided by the State Party to the 2011 Reactive Monitoring mission. On the same map, a buffer zone was presented.

Lately, the State Party physically demarcated the component site boundary on the ground with short concrete poles, according to a completely different delimitation. Additionally, a wall and an entrance gate were built at its western side. The buffer zone is not physically delimited on ground. Additional analysis of the entrance gate construction can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.

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Fig. 79: A 2004 Google Maps satellite image with the polygon as delimited by the State Party in 2003

Fig. 80: The new entrance gate to the north of El-Kurru site (A. Seif)
In brief, the component site boundaries were delimited in the 2003 nomination file (Cyan polygon) without a buffer zone, which was only textually described and the surface area provided (6.5 hectares). In 2009, a new ‘unofficial’ site boundary limit (Green polygon) and a so-called buffer zone (Blue polygon) were mapped and presented to the 2011 Reactive Monitoring mission without following any official procedure (Annex 11 of the Operational Guidelines). Later, another ‘unofficial’ site boundary was physically delimited on the ground (Red polygon), which does not correspond to any of the previous demarcations.

### 6.3.2 Management of Community involvement

Apart from the official administration of the site, which is the same as for the other components of the World Heritage property, a community-based approach in awareness and future management perspectives began to take place in collaboration with the Michigan University archaeological mission team.

Within this framework, the mission reported that “an extensive conversation with the village community in El-Kurru have resulted in development of plans for a community heritage center that would supplement visits to the site and provide some ongoing income for the community. The community was enthusiastic about the idea that visitors to the archaeological site would also learn about local culture.”

Based on the above, the mission plans “to devote one exhibit space to local culture {centering on photos taken by people in the village and explained in their own words} in addition to having an exhibit space to supplement visits to the archaeological site. The center will also provide local food and drinks for visitors and will also sell and support local crafts.”
6.3.3 Flash Floods

As in all sites of the World Heritage property, flash floods are a common threat to the site. Vast amounts of rain can fall in a very little amount of time, transforming the area of the sites and their surroundings into huge rivers and lakes.

These rain floods cause tremendous damage to the exposed and underground archaeological features.

A photo of the 2018 flood (which was reported by the US team) shows the immediate surroundings of the site transformed into a river.

**Recommendations**

In order for the protection management planning of the site be more effective, the mission recommends to develop a hydrological study of the site based on a detailed topographical survey and analysis of the terrain. This will help in understanding the water flow direction capacity and potential risks during the flash floods episodes. Consequently, a better protection strategy should be drafted for the site.

![Fig. 82: Flood in wadi next to El-Kurru funerary temple, summer 2018 (G. Emberling)](image)

6.3.4 The new visitors centre

During the visit to the site, the present Mission was surprised to see construction works in front of the entrance gate of the site. These works are related to the new visitors’ centre, designed by a private donor and approved by the local authorities. It is intended to host different tourist-oriented activities.

As seen on the ground and after examining the few execution maps of the project available, the present Mission realized that the construction could have a severely negative impact on the site and its direct surroundings.
This position was conveyed to Dr. Abdel Rahman Ali, Director of NCAM, and a formal letter was sent from the World Heritage Centre to the State Party regarding this matter.

The Mission recommends stopping immediately the construction work of the entrance building developed by “Indico Consult” at El-Kurru, within the buffer zone of the site as defined in the 2011 plans handed over by NCAM to the 2011 mission, due to the huge damage it could cause to the site and its direct surroundings.

Additional analysis of this project can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.

![Fig. 83: The new visitor centre construction works to the north of El-Kurru site (A. Seif)](image)

### 6.3.5 Buffer Zone

The buffer zone of El Kurru is present only on the 2009 maps presented to the 2011 Reactive Monitoring mission. It represents the area extending from the main road to the north until the limit defined today by the new gate.

Nevertheless, the present mission did not see any physical delimitation on the ground of this buffer zone. On the contrary, informal delimitations were seen in different parts of this area. Afterwards, when discussing with the people of the village, the mission was informed that these delimitations were installed by the villagers as a message to the authorities to demonstrate that if the new visitors’ centre is built, the area between the site and the road consequently will no longer serve as a buffer zone. Therefore, the villagers argue that they are allowed to divide the land among themselves since it is considered as being part of their village and they are the first rightful beneficiaries.
Recommendations
Since the planned construction is causing development dynamics adversely impacting onto the property, the mission stresses on the necessity for a controlled urban development mechanism to be implemented in place that requires an urban master plan that acknowledges the limits of the property.

6.3.6 Future plans
During the mission, the mission team was informed by the State Party of various projects, as follows:

- A protective entrance to the Tomb of King Piankhi;
- A viewing platform;
- Construction of a community heritage centre;
- Pathways inside Kurru component

Analysis of these projects can be found in the relevant ICOMOS Technical Reviews included in annexe 8 of this report.

6.4 SANAM
6.4.1 Site Boundaries
The 2003 ‘maps’ delimited the boundaries of this component without any delimitation of the buffer zone. No buffer zone was mentioned in the nomination file, but only the site area of 20 hectares.

Fig. 84: Aerial view mapping the property’s component provided in the nomination file in 2003.
By 2011, the development of the road network in the area confined the site between the newly constructed roads and the village residential constructions.

A new map elaborated in 2009 was given to the 2011 Reactive Monitoring mission. This new map of the component site does not resemble in any way the 2003 nomination map.

In the new map, the site limits were traced according to the new road network and the village residential constructions.

**Fig. 86: The different overlaid limits (A. Seif – based on Google Earth)**

- **Cyan polygon**: Site boundaries provided in the nomination file.
- **Green polygon**: limits of the component site as provided by the State Party to the 2011 mission
- **Red polygon**: Property’s fenced limits as mapped by the 2019 mission
The present on-ground delimitation of the site has many problems. One major issue is that there is a double fence between the archaeological excavation area of Sanam and the Temple area. This makes it appear as though they are two sites with a gap between them.

![Fig. 87: The unfenced zone between Area 1 and 2 where the cars are parked (A. Seif)](image)

### 6.4.2 Site Fencing and Security

As stated by the 2011 mission, the wire link fences at Sanam are inappropriate, as they collect windblown rubbish, are very unsightly and give an impression of exclusion and isolation of the local population from the site.

Consequently, this metal fence surrounding the site is regularly broken and holes created to provide access to people and vehicles who take a shortcut across Area 1. The area of the temple built by Taharqa (Area 2) is also fenced. However, as stated above, it is not in connection with Area 1. The village that surrounds the temple is very close already to the fencing, and the visual connection with the other site is fragile since it could be threatened by urban encroachment, even though illegal construction seems to be prevented by the presence of a police officer at the site (one of the village inhabitants). 24h shifts are organized with another police officer, but no guard is present at the site. No facility or post is provided to the police officer.

As very well stated by the 2011 mission, “The site boundaries need to be marked and signage erected. The wire link fences as have been erected at Sanam are inappropriate, as they collect windblown rubbish (something very prevalent in the local environment) and are very unsightly and give an impression of exclusion and isolation of the local population from the site.”

In addition to the peripheral fence of the site, the Italian archaeological mission working on site installed another series of fences around the individual monuments inside the already fenced component site. According to the archaeological mission director, “it was resolved not to carry out repairs to the existing perimeter fence but to erect a protective fence around each
one of the buildings already excavated. This approach has proved to be highly effective as a recent inspection showed that since 2015, there is no sign of damage to the structures thus protected. Looking at the future, and until such time as the site can be effectively guarded, we think that this is the best way of protecting the site.”

However, this solution has an impact on the visitation and accessibility of the different features at the site.

6.4.3 Domestic waste

The site is contaminated with domestic waste. In area 1, the waste is mainly retained by the fences, forming walls of plastic items. However, in Area 2, which is surrounded by a village, the waste is invading the site.

Burning of litter as a means of disposal is also a common activity. This activity is practised inside the boundaries of the component site.

Fig. 88: Holes in the fence in addition to trash burning (A. Seif)

6.4.4 Vehicles traffic inside the property

As very well stated in the State Party’s 2019 report on the state of conservation, “Despite the provision of the gates, intended to allow the passage of people and lighter traffic, the original fence has been cut in many places and, in the absence of proper surveillance, the continuous traffic crisscrossing the site causes damage to the archaeological area.”
Fig. 89: Traces of motor vehicles crossing Area 1 (Y.Tabet)

6.4.5 Visitors’ Centre

In 2018, Paolo Cannata, a Mission architect, drew up the plans for a visitor centre/information point, which were submitted and approved by the Sudanese authorities.

The construction of a visitor centre started in Area 1, and the design of the project was provided to the Mission during its visit.

While the design of the visitor centre seems to be adequately planned (small scale, local materials and adobe works; an exhibition and interpretation space designed in collaboration with the other mission working at the site; designed for minimal maintenance needs, with maintenance plan that will be provided to NCAM; with a manager identified by NCAM), it should have been considered as part of a broader reflection in the framework of a tourism management plan for the World Heritage property. This would have allowed the harmonisation of the visitor facilities’ functions and design. At Sanam, the location of the visitor centre has been chosen due to the proximity of the road, and the space available for parking and toilet facilities potentially placed close to the market area facing the visitor centre at the opposite side of the road. However, it is to be noted that this building, despite its small size, will be the highest building on the site, which is mainly flat. Its location is therefore questionable. It could have been better integrated and in closer connection with Area 2.

At the time of the 2019 mission visit, the issues related to the type and localization of toilets (chemical or organic; inside or outside the site; maintenance issues) were not resolved.

Additional analysis of this project can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.
6.4.6 Storage and warehouses

The members of the Italian archaeological mission are keeping the archaeological findings of the Treasury and SAK 300 at the Italian mission house, due to the lack of storage place at the Gebel Barkal Museum. According to the Italian archaeological mission, only precious items such as ivories are stored at the museum.

**Recommendations**

The traffic inside the property must stop immediately, and security measures should be upgraded on site.

All new projects should be submitted to the World Heritage Centre prior to their implementation, as per article 172 of the *Operational Guidelines*.

Furthermore, storage of items should always be in secure places and should be under the sole responsibility of the State Party.

6.5 ZUMA

6.5.1 Site Boundaries

As for the other sites, the 2003 ‘maps’, presented along with the nomination file, delimited the boundaries of this component without any delimitation of the buffer zone.
Fig. 91: Aerial view mapping the property's component provided in the nomination file in 2003.

A new delimitation was represented on the maps provided by the State Party to the 2011 Reactive Monitoring mission. On the same map, a buffer zone was presented.

Fig. 92: A 2004 Google Maps satellite image with the polygon as delimited by the State Party in 2003

Lately, the State Party physically demarcated the component site boundary on the ground with short concrete poles, following a completely different delimitation. The buffer zone is not physically delimited on ground.

In parallel, a plan was presented in 2014, with a completely different buffer zone than that presented in the previous plan of 2011. The new buffer zone is transformed into a band around the northern limits of the site. This latter plan is implemented physically on the ground.

It is also worth noting that one tumulus is degraded and almost completely gone and is outside of the boundaries.
In brief, the component site boundaries were delimited in the 2003 nomination file (Cyan polygon) without a proper delimitation of the buffer zone. In 2009, a new ‘unofficial’ site boundary (Green polygon) and a so-called buffer zone (Green filled polygon) were mapped and presented to the 2011 Reactive Monitoring mission without following any official procedure (Annex 11 of the Operational Guidelines). In 2014, a new delimitation of the site boundaries and a new buffer zone (Filled blue polygon) were mapped. Later, a new ‘unofficial’ site boundary and a buffer zone were physically delimited on the ground (Red polygon) which correspond to the 2014 map.

It is worth noting that none of the presented plans include the remains of the tumulus situated at the eastern side of the site. Moreover, the physical demarcation of the component site does not include it.

**Recommendations**

The mission considers that this tumulus is part of the site and contributes to the OUV of the World Heritage property. Consequently, even if only a few parts of this tumulus remain today, it is imperative that it is included within the Zuma component.
6.5.2 Site Security

One of the village houses at the eastern border of the site has been restored into a station for the tourism police that guard the site (nine police officers in total, making three teams of three police officers doing 24h shifts).
6.5.3 Domestic waste management

Domestic waste management is also an issue at this site. Excavation holes are used as trashcans by the local communities crossing the site.

![Litter and domestic waste spread inside the component site (A. Seif)](image)

6.5.4 Flash floods

Flash floods are increasingly disturbing the site, especially the tomb chambers. These tombs are filled up with water during the rainy season, causing damage inside the tomb chambers. A proper shelter, at least during the rainy season, should be considered by the managing authorities.

6.5.5 Urban Encroachment

Since the nomination, some houses were built inside this component, namely on the North-West side.

These houses, in addition to others built after the nomination, still encroach on the component site, even after its delimitation on maps in 2009 and its later physical demarcation on the ground.

Uncontrolled further development in the area surrounding the site is also alarming, especially given that the 2019 State Party report on the state of conservation highlights land ownership pressures. The latter is considered as a potential threat to this site, given the very limited size of the buffer zone proposed on the 2014 maps and the fact that the site is an impressive archaeological landscape.
This situation is sadly reflected in the State Party’s 2019 report on the state of conservation: “As noted, the hunger for land ownership without any consideration or respect to the nearby archaeological site constitutes a real problem. On the other side, the provincial district officers usually do not cooperate to stop any wrongdoing towards the national heritage. Obviously, if there is no cooperation between the local popular committees, local governments, Antiquities Service and the archaeological mission, then the result will be a total loss of the national heritage.”

6.5.6 Urban Equipment Networks

An electric line, including its poles, runs across the southern part of the site, in addition to an underground water supply network also present on site. This situation is very alarming since the works carried out in order to establish these two types of infrastructure definitely caused damage to the site during their implementation. Moreover, the presence of this urban equipment means that future reparation and/or maintenance works will be carried out using heavy machines inside the component site, not to mention the fact that excavation works will be involved for water network maintenance and repair.

Fig. 97: one of the dispatching valves of the water network crossing the site (A. Seif)

Fig. 98: View of the electric network poles inside the site – The photo also shows the visual encroachment caused by the water tanks in the background (A. Seif)
6.5.7  Visual impact on the integrity

The integrity of the site is visually adversely affected by different urban equipment spread in the visible horizon of the site.

6.5.8  Future plans

The State Party’s 2019 report on the state of conservation mentions that a major project is planned for the conservation and reconstruction of Zuma burial field, as well as a museum. It is called the Zuma Archaeological Centre and Socio-Cultural Community Club, and is prepared by Altakamul Alhandasi Architects and Engineers. The plans and models of the new structure were included in the report. No further information was provided during the mission regarding the location of this future structure.

Neither the World Heritage Centre nor the Advisory Bodies were informed about this new project, as should have been done according to article 172 of the Operational Guidelines.

Additional analysis of this project can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.

Fig. 99: A 3D model of the future Al Zuma Archaeological Centre as presented in the State Party’s 2019 report on the state of conservation.

During the mission, the mission team was informed by the State Party of a project to reconstruct a Tumulus. Analysis of this project can be found in the relevant ICOMOS Technical Review included in annexe 8 of this report.
7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The mission would like to acknowledge the efforts made by the State Party, namely NCAM for their dedication, enthusiasm, and efforts to protect their national heritage, which is a heritage for all humanity.

In this regard, the mission is glad to know about the process of upgrading the administrative structure of NCAM in order to cope with the tasks that lie ahead, as well as the ratification of the 1970 Convention, which would help the State Party in organizing its outstanding national heritage. Consequently, the mission encourages NCAM to put their efforts into upgrading the management level of the World Heritage property in Sudan, namely in Gebel Barkal and the sites of the Napatan Region.

The mission also appreciates the close collaboration between the UNESCO office in Khartoum and NCAM in order to empower its personnel in the accomplishment of their respective tasks.

Furthermore, the good example of professional conservation works carried out in the Mut temple, in the Palace B1500 at Gebel Barkal, and the protection work in Sanam as well as the wall painting conservation at El Kurru, are to be encouraged and supported. The efforts of IKAP for the protection of the tomb chamber of pyramid KU.1, and that of the Italian team for the Meroitic Palace B1500, are appreciated. If these actions are sustained and continued, they will definitely pave the way to a better conservation practice of the property in the near future. These restoration projects and the actions taken in addition to the collaboration efforts are very good examples to follow.

Nevertheless, even if the mission considers that, for instance, the conservation approach of the Italian team on the Meroitic Palace B1500 could be a good alternative to the reburial of the monuments for the temporary protection, it recalls that this intervention type must not affect the authenticity of the property’s scenery.

On the other hand, the mission regrets to discover that the integrity and the authenticity of the property are seriously threatened. The monuments suffer from the adverse effects of development, and their fabric is degrading and suffering from the adverse impacts of natural agents as well as human neglect. Furthermore, despite the conservation efforts at the different monuments that convey the OUV of the property, the degradation process of the various monuments is getting out of control, namely in the Barkal region. Moreover, the integrity is jeopardized visually by the urban development and construction that are encroaching on most of the property’s components. Consequently, the landscape of each of the components is altered and its location and setting transformed in an irreversible way.

The mission discovered that the many elements affecting the property (i.e., flash floods, wind and sand erosion, rising water table, humidity and degradation of material) are not always appropriately faced and their effects are sometimes irreversible. The damage resulting from the flash floods in the Barkal region has not been appropriately tackled and no preventive measures have been taken to minimize their future effect.
Furthermore, the lack of proper maintenance and the state of neglect of most of the monuments are reaching alarming levels, seriously affecting the Outstanding Universal Value of the World Heritage property.

There are many significant projects being implemented on the different components of the World Heritage property without proper consultations being carried out beforehand in accordance with Paragraph 172 of the Operational Guidelines. In this sense, the Mission finds that IKAP should have waited for the feedback of the Advisory Bodies regarding the shelter over the funerary structure at El Kurru before the implementation that was carried out in haste. This is also the case with the different visitors’ centres that are planned or being implemented on sites.

The boundaries of the different components and their buffer zones are not properly defined and managed. This situation is leading to management and governance confusion on different institutional levels. On the legal level, the Constitution attributes to the Federal State the major principles and directives, in particular in the realm of culture. In this context, the recent report on the state of conservation submitted by the State Party notified that the land to the west and north-west of Gebel Barkal site was sold for development. This is same area that was intended to be the buffer zone of the archaeological site. Consequently, the prerogatives of the local federal government over the surrounding areas of the World Heritage properties should be clarified by the State Party, and proper regulation established for the buffer zone to ensure the protection of the property.

Furthermore, the lack of presence of proper boundaries is causing tremendous damage to the different monuments due to the circulation of motor vehicles inside the boundaries of the different components. These vehicles belong mostly to the tourist agencies. In this sense, there is no tourism management mechanism operating on the ground at the site level. The tourist agencies and companies operate according to their own interests without any regulation whatsoever regarding the preservation of the sites. The Mission regrets that the tourism police responsible for the protection of the sites, and who should regulate tourist activities on site level, does not have the basic needs fulfilled in most of the sites and is so reduced in number that it cannot cope with the basic protection needs of the different components.

As for the Museum and the storage facilities in the different components, and mainly in Gebel Barkal, they are in a very poor condition. The museum structure lacks the basic requirements for safety and security as well as the proper conservation environment for the exhibited artefacts. The objects are poorly displayed and most of them are broken and in a very precarious state of conservation. Furthermore, there is no comprehensive database of the exhibited objects within the reach of the management team.

All the matters mentioned above demonstrate the precarious situation of the site museum, resulting in severe risks for the exhibited features. The structure of the museum needs to be rethought, and the transfer of the entire collection to another, more suitable location should be considered.

The structures themselves, as well as the proposed new visitors centre, do not follow any particular presentation strategy. The mission recommends to remove these structures from the property. New buildings should be adequately built at the outer limits of the property.
These new buildings have to merge with the local architecture and offer the needed facilities to visitors and staff.

Management plans are lacking for the property: even if they are present, they are not applied. Additionally, there is a lack of a global strategy towards the management of the different foreign missions working on excavations and restoration projects. Each team applies its own methodology without an official coordinating body.

To summarise, the situation today is beyond the handling capacity of NCAM. Consequently, the previous recommendations of the World Heritage Committee cannot be addressed, not because of the unwillingness of the State Party but because of its incapacity to do so. Consequently, the State Party, and more precisely NCAM, need serious help and support from the international community and UNESCO.

7.2 Recommendations

Boundaries and Legal Protection:

1. The clarification of boundaries and the development of a minor boundary modification, with proper regulations established for the buffer zones, is of crucial importance. It should be submitted to the World Heritage Centre for approval by the World Heritage Committee according to the regulations stipulated in Annexe 11 of the Operational Guidelines. The boundaries should include all the elements that convey the Outstanding Universal Value (OUV), particularly in relation to the Zuma component where one of the tumuli is outside the current site boundaries. [Urgent]

2. The buffer zone should be extended to encompass the immediate setting of the different components in order to avoid any further development that could have an impact on the property’s authenticity and integrity.

3. It is of the utmost urgency that the State Party clarifies the ownership, official land use and function of the land to the west and north-west of Gebel Barkal reported as being sold for development, and establish proper regulation for the buffer zone to ensure the protection of the property. This area was defined as Buffer Zone for the site as defined in the 2011 plans handed over by NCAM to the Reactive Monitoring mission in 2011. [Urgent]

4. The legal protection of the World Heritage property components and their surroundings has to be clarified by the State Party, namely when considering decisions to be taken by the federal governments. In this sense, a master plan should be set up for these surroundings, defining the desired and unwanted forms of developments with urban planning regulations and mechanisms to protect the integrity of the World Heritage property from urban and regional development.
5. Since NCAM is considering strengthening its 1999 Ordinance through amendments to ensure adequate protection of the World Heritage property, it is important to include issues of coordination between the different institutions of the State, and the integration of this coordination principle within national and local development plans. The mission recommends that the amendments be adopted as soon as possible by the Council of ministers including the reference to urban planning issues, as a prerequisite to ensure the adequate protection of the property.

**Conservation:**

6. Before attempting to carry out any major conservation or restoration intervention, a monitoring system should be implemented on all the component sites of the property. Only long-term monitoring would allow the detection of the nature and the speed of degradations.

7. In parallel, a comprehensive conservation plan for the whole property should be undertaken. Urgent focus should be put on the Gebel Barkal monuments.

8. Any further conservation interventions on the site, including the issue of reburial, should be discussed on a broad-international level among conservation specialists and the results incorporated into the conservation strategy for the property. The mission urges the State Party to create such a conservation strategy document that should be shared with the World Heritage Centre and the Advisory Bodies before any implementation takes place on a large scale. In this sense, the mission recommends that the approach adopted in the conservation of the Meroe pyramids, as well as the Naqa temples, be researched to see if it could be applied to the Nuri component and the pyramids at Gebel Barkal. This method proved its efficiency over a period of ten years of application.

9. All shallow archaeological features apparent on the ground at Sanam should be backfilled temporarily until their excavation and conservation. [Site-Specific]

**Management and Capacity Building:**

10. As for the new NCAM administrative structure which was sent to the Government for approval; NCAM should inform to the World Heritage Centre and the advisory bodies about the progress of this file and its state of approval and implementation.

11. NCAM should focus on capacity-building programmes related to heritage management and conservation. The exchange of expertise with the teams working on the different sites would be a good starting point. Nevertheless, more systematic transmission of knowledge by different means through international workshops and conferences are also needed.

12. The full application of the approved 2007 management plan should be of utmost priority for the State Party, considering that this plan should be updated in parallel to its implementation.
13. Tourism management should be addressed at the level of the World Heritage property, in order to harmonize the interpretation and presentation of all its components and control visitor flow. Interpretation panels are most needed to understand the property and its components, given the fact that some components do not present any obvious valuable element to the general public (e.g. Zuma).

14. Waste management should be dealt with on the level of the World Heritage property in order to address the related issues globally for all the involved components.

15. The access of motor vehicles to the different components of the World Heritage property should be absolutely stopped.

16. More emphasis should be drawn to the upgrade of the capacity of the personnel and the recruitment of new efficient and knowledgeable people who can address heritage modern needs, namely regarding World Heritage properties.

**New development projects at the site:**

17. All new development projects should imperatively be sent to the World Heritage Centre and the Advisory Bodies prior to their implementation according to article 172 of the Operational Guidelines.

18. It is crucial to stop immediately the construction works of the entrance building developed by “Indico Consult” at El-Kurru, within the buffer zone of the site, as defined in the 2011 plans handed over by NCAM to the RMM in 2011, due to the huge damage it could cause to the site and its direct surroundings. [Urgent]

19. The mission recommends reconsidering the funds dedicated to the Museum and storage upgrade in Gebel Barkal. Instead of proposing a repair and extension of this museum structure, the focus should be laid rather on the documentation and conservation of the museum objects. [Site-Specific]

20. The administrative structure, the storage room and the museum in Gebel Barkal should be transferred to a nearby location on the edge of the site boundary. Consequently, new appropriate structures should be built for this purpose that conforms with international standards. [Site-Specific]

21. The mission recommends to completely remove hotel construction in front of the western pyramids which present a real threat to the property's integrity and authenticity. Furthermore, include the area where it is constructed within the buffer zone of the site. [Site-Specific]

22. A stronger and less invasive protective cover should be introduced to cover the tomb chambers at Zuma (see project technical review in Annex 8). It could be similar to the current shelter but able to handle greater loads. As for the protection from the rainwater, a temporary rain shelter that is installed during the rainy season has to be considered. [Site-Specific]
Research and Awareness Raising:

23. The hydrological issues, either flash floods or ground water levels in the different components should be addressed properly by the State Party. It needs to include the morphology of the terrain levels at landscape scale into the site documentation either by topographic or aerial laser scanning. Based on the above, hydrogeological studies and analysis should be done by professional entities indicating flood plains and drainage patterns.

24. Awareness raising and community involvement should be addressed seriously by the authorities and the archaeological missions working on the different sites. The example of the dynamic taking place in El Kurru is a good example to follow.

25. Finally, the mission advises that the State Party develops an Action Plan based on the detailed assessment of the recent Reactive Monitoring mission, and invites an Advisory Mission to support NCAM in its elaboration if needed. Such an Action Plan should be structured along five main straits already introduced with the recommendation section:
   1. Management Structure and legal instruments (also in conjunction with other sectors such as rural/urban development);
   2. Inventory and Documentation within the framework of a Risk Preparedness approach;
   3. Conservation/Restoration strategy and Monitoring;
   4. Development and Community Involvement;
   5. Presentation of the Property and Tourism Management.

The Action Plan should include a time and work plan for the next five years, identifying under each section detailed emergency interventions to be carried out within the next two years (until the end of 2022). [Urgent]

7.3 Conclusion

It is clear that the property suffers from:

1. serious deterioration of materials;
2. serious deterioration of structure and ornamental features;
3. Lack of systematic approach towards the management of the property.

The property also faces threats that could have deleterious effects on its inherent characteristics, such as:

1. lack of conservation policy;
2. threatening effects of regional planning projects, including town planning;
3. threatening effects of uncontrolled tourism;

Major operations are therefore necessary for the conservation of the property.
Due to these reasons, and those outlined in the mission report above, the mission considers that the alarming level of deterioration at most sites is impacting highly adversely on the authenticity and integrity of the property, and that the development on the western side of Gebel Barkal would irretrievably compromise its setting. These threats combined with the negative impact of uncontrolled tourism and lack of adequate protection and management are impacting adversely, and in places irreversibly on the OUV of the property. It is urgent that the State Party take immediate actions to control the situation and implement fully the recommendations of the mission.

In response to the request of the World Heritage Committee (Decision 42 COM 7B.59, adopted in Bahrain in 2018) to consider whether inscription of the property on the List of World Heritage was justified in line with Paragraph 179 of the Operational Guidelines, the mission proposes that the opportunity be given to the State Party to urgently implement the recommendations of the mission and to report in 2020 on the progress made with controlling the current degradation. Without considerable progress toward the improvement of the situation at the property, the inscription of the property on the List of World Heritage in Danger should be seriously considered by the World heritage Committee at its 44th session.
8 ANNEXES

1. Terms of reference
2. Itinerary and programme
3. Composition of mission team
4. List and contact details of people met
5. State Party’s 2019 report on the state of conservation
6. Maps
7. List of documents provided to the mission
8. ICOMOS Technical Reviews of the project proposals discussed during the mission
8.1 Terms of reference

At its 42st session, the World Heritage Committee (Decision 42 COM 7B.59) noted the progress that has been made by the State Party in the framework of the Qatar-Sudan Archaeological Project and in conformity with its recommendations and requested the State Party to invite a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property, to evaluate the property’s state of conservation, identify precise threats to its OUV in collaboration with key national and international stakeholders, develop an action plan addressing management, monitoring and visitor management issues, and determine whether the state of conservation of the attributes that sustain the property’s OUV, notably its authenticity and integrity, are subject to ascertained or potential danger, in line with Paragraph 179 of the Operational Guidelines.

The mission should provide a report that sets out recommendations for examination by the World Heritage Committee at its 43rd session in 2019.

In particular, the mission should carry out the following activities in relation to key issues:

1) Assess the overall state of conservation of the property;

2) Assess any other relevant conservation issues or development project that may negatively impact on the Outstanding Universal Value (OUV) of the property in collaboration with key national and international stakeholders;

3) Evaluate the congruence of the provisions for the protection, conservation and management of the property with the objective of protecting and maintaining the OUV of the property;

4) Report on the progress of the implementation of the recommendations of the World Heritage Committee Decision 42 COM 7B.59 on:
   a. An overall Master Plan for the site's development, interpretation, and capacity building for long-term site management arranged by the Qatar-Sudan Archaeological Project (QSAP).
   b. Development of a tourism management plan, as well as detailed documentation on the actions carried out and planned.
   c. Detailed information and documentation on the proposal to construct a cover over the El Kurru funerary temple, to the World Heritage Centre for review by the Advisory Bodies.

5) Understand on-going initiatives to raise awareness of, and foster engagement with, local communities and visitors;

6) Review on-going and completed major conservation projects in particular those related to the Qatar-Sudan Archaeological Project;

7) Report on any other matters that might be relevant to the OUV of the property.

8) Based on this property visit and interviews with the responsible authorities, prepare a mission report that will analyze the above points and make recommendations.
8.2 Itinerary and programme

Sunday 17 February 2019:
Mission arrival at Khartoum, Sudan
Night at the Bougainvillia Guesthouse in Khartoum

Monday 18 February 2019:
8.00-9.00: UNDSS Security briefing
9.30-11.00: Meeting with the Director of National Corporation of Antiquities and Museums (NCAM)
11.30: Departure to Gebel Barkal (5 ½ hours’ drive)
17.30: Meeting with the Director of excavations in Sudan and site manager.

Night at the Nubian guesthouse in Gebel Barkal

Tuesday 19 February 2019
8.00-9.30: Work at the site of Nuri
9.30-11.45: Work at Sanam Abu Dom
11.45-12.00: Visit of the Museum at the Merowe Dam Township
14.00-16.00: Inauguration of the site of Abasseya and lunch
16.00-17.00: Visit of the Museum of Gebel Barkal.

Night at the Nubian guesthouse in Gebel Barkal

Wednesday 20 February 2019
8.00-9.00: Work at the site of Zuma
9.00-13.30: Work and lunch at the site of El-Kurru
14.30-17.00: Work at the site of Gebel Barkal

Night at the Nubian guesthouse in Gebel Barkal

Thursday 21 February 2019
7.30-8.30: Work at the site of Gebel Barkal
9.00-10.00: Meeting with the Deputy Governor of the Province of Meroe (Sanam)
10.30-12.00: Meeting at the NCAM offices
12.00: Departure to the site of Meroe (4 hours’ drive)
17.00: Meeting with the Site manager

Night at the Italian Camp of Bejrawiyya (Meroe)

Friday 22 February 2019
8.00-12.00: Work at the Royal city of Meroe
13.00-14.00: Work at the city of Hamadab
14.00-16.30: Meeting at the visitor Centre of Meroe
16.30-18.00: Work at the Pyramids of Meroe

Night at the Italian Camp of Bejrawiyya (Meroe)

Saturday 23 February 2019
8.30: Departure for the site of Al-Musawwarat (2 hours drive)
10.30-13.00: Work at the Site of Al-Musawwarat
13.30-14.30: Work at the site of al-Naqa
14.30: Departure to Khartoum (3 hours’ drive)
18.00: Debrief Meeting with FO/KHA
Night at the Bougainvilla Guesthouse in Khartoum

Sunday 24 February 2019
7.45-8.45:  Meeting with DIR FO/KHA
9.00-10.00: Meeting with the Under-Secretary of States, Minister of Culture a.i and Director of NCAM and FO/KHA
11.00-11.30: Meeting with the Advisor of the President
14.00-15.00: Lunch with the Secretary General of the National Commission for UNESCO
15.30-16.30: Visit of the National Museum and farewell to Director of NCAM
17.00-21.00: Work at FO/KHA and Departure to the airport

Monday 25 February 2019
00.45:  Departure of the mission
13.00:  Arrival in Paris (WHC) and /Beirut (ICOMOS)
8.3 Composition of mission team

Younna TABET (UNESCO World Heritage Centre)
Assaad SEIF (ICOMOS)
8.4 List and contact details of people met

National Corporation for Antiquities & Museums (NCAM)
- Dr. Abdel Rahman **Ali Mohamed**, Director General, abdelrahman249@hotmail.com
- Murtada **Bushara**, Director of the Regional Antiquities Office Northern State, Site manager of “Gebel Barkal and the Sites of the Napatan Region”, napatawh@yahoo.com
- Hassan Ahmad **Mohammad**, Director of field works hassanahmedm@hotmail.com
- Mustapha Ahmed **El Sharif Abdalla**, deputy director of conservation mustafasharif@hotmail.com
- Mahmoud Suliman **Bashir**, Director of the Regional Antiquities Office Nile State, Site manager of the “Archaeological sites of the Island of Meroe”

Archaeological missions at “Gebel Barkal and the Sites of the Napatan Region”
- Timothy **Kendall**, tk@barkal.net (Gebel Barkal)
- Geoff **Emberling**, Kelsey Museum of Archaeology, University of Michigan, geoffe@umich.edu (El Kurru)
- Rachel J. **Dann**, University of Copenhagen, rachael@hum.ku.dk
- Emanuele **Ciampini**, University of Venice ca’ Foscari, ciampini@unive.it (Gebel Barkal Palace)
- Irene **Vincentelli**, Sudan-Italian mission, (Sanam)
- Maria Concetta Laurenti, Instituto Superiore per la Conservazione ed il restauro (Rome), mariaconcetta.laurenti@beniculturali.it (Mut temple, Gebel Barkal)
- Maria Montserrat **Diaz de Cerio**, Spanish mission of Wahat projects

Archaeological missions at “Archaeological sites of the Island of Meroe”
- Cornelia **Kleinitz**, Institute of Archaeology, Humbolt University, Berlin (Naga)
- Alexandra **Riedel**, German Archaeological Institute (DAI), alexandra.riedel@dainst.de (Meroe pyramids)
- Simone **Wolf**, German Archaeological Institute (DAI), simone.wolf@dainst.de (Meroe Royal Baths)
- Pawel **Wolf**, German Archaeological Institute (DAI), pawel.wolf@dainst.de (Hamadab)

Sudanese National Commission for UNESCO
- Abdulgadir **Noureddin**, Secretary General, agader1960@gmail.com

UNDSS Sudan
- Omer Mohamed **Ahmed**, Field Security Associate, omer.ahmed@undss.org
8.5 State Party’s 2019 report on the state of conservation

The document is available at: https://whc.unesco.org/en/list/1073/documents/
8.6 Maps

Aerial view mapping the property’s component provided in the nomination file in 2003.
Map provided to the 2011 Reactive Monitoring Mission (dated 2009)
Delimitation of the 2011 proposed boundaries overlaid on a satellite image (A. Seif – Based on Google Earth)

Property’s plotted limits as mapped by the present mission (A. Seif – based on Google Earth)
**NURI**

Aerial view mapping the property’s component provided in the nomination file in 2003.

2011 Google Maps satellite image with the polygon as delimited by the State Party in 2003 showing the agricultural lands encroaching over the North-West side of the site.
Map provided to the 2011 Reactive Monitoring mission (dated 2009)

Red polygon: Plotted limits of the site as mapped by the present mission (A. Seif – based on Google Earth)
EL KURRU

Aerial view mapping the property’s component provided in the nomination file in 2003.

The map provided to the 2011 Reactive Monitoring mission (dated 2009)
Delimitation of the 2011 proposed boundaries overlaid on a satellite image (A. Seif – Based on Google Earth)

Overlay of the 2003 boundaries and the physical demarcation of the component site on a satellite image (A. Seif – Based on Google Earth)

SANAM
Aerial view mapping the property’s component provided in the nomination file in 2003.
Map provided to the 2011 Reactive Monitoring mission (WHC)
A 2011 Google Maps satellite image with the polygon as delimited by the State Party in 2003 showing component site as delineated on the map provided to the 2011 Reactive Monitoring mission.

The fenced limits of the site as mapped by the present mission (A. Seif – based on Google Earth)
Aerial view mapping the property’s component provided in the nomination file in 2003.
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Limits of the site boundaries and buffer zone as defined on the maps provided by the State Party to the 2011 Reactive Monitoring mission

Plotted limits of the site as mapped by the present mission (A. Seif – based on Google Earth)
## 8.7 List of documents provided to the mission

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8.8 ICOMOS Technical Reviews of the project proposals discussed during the mission

The ICOMOS Technical Reviews included in this annexe assess the following project proposals:

1) SANAM: Visitor Centre at Sanam Component
2) ZUMA: Zuma Archaeological Centre and Socio Community Club
3) ZUMA: Reconstruction of a Tumulus at Zuma Component
4) KURRU: Visitor Centre/Entrance Building at Kurru Component
5) KURRU: Protective cover over the recently discovered Funerary Temple at Kurru Component
6) KURRU: Protective entrance to Tomb of King Piankhi at Kurru Component
7) KURRU: Viewing platform at Kurru Component
8) KURRU: Community Heritage Centre at Kurru Component
9) KURRU: Cover for the staircase for of pyramid Ku.1 at Kurru Component
10) KURRU: Improvement of the access to painted tombs of Qalhata and Tanwetamani
11) KURRU: Pathways inside Kurru Component
12) KURRU: Entrance gate to the Kurru Component
13) GEBEL BARKAL Visitor Centre at Gebel Barkal
14) GEBEL BARKAL Rehabilitation of the Museum of Gebel Barkal
ICOMOS Technical Review

Property | Gebel Barkal and the Sites of the Napatan Region
State Party | Sudan
Property ID | 1073
Date of inscription | 2003
Criteria | (i)(ii)(iii)(iv)(vi)
Project | Visitor Centre at Sanam Component

This project falls within the framework of the Qatar-Sudan Archaeological Project (QSAP) oriented policy towards tourism, which includes in the mandate of the funded archaeological teams the requirement for visitor centres.

As it was explained to the World Heritage Centre/ICOMOS Reactive Monitoring mission that visited the site in February 2019, this project is planned to operate as a visitor centre and a resting space at the same time.

The visitor centre building has been constructed a few metres away from the southern limit inside the boundaries of the Sanam component.

The project documents were provided to the mission by the State Party during their visit to the site in February 2019.

Analysis
The design of the visitor centre/information point seems to be adequately planned (small scale; local materials and adobe works; exhibition and interpretation space designed in collaboration with the other mission working at the site; designed for minimal maintenance needs; maintenance plan that will be provided to the National Corporation of Antiquities and Museums (NCAM); manager identified by NCAM).

However, it is to be noted that this building, even though it is small, is the highest building on the site, which is mainly flat. Its location is therefore questionable.

The location of the visitor centre was chosen due to the proximity of the road and the space available for parking and toilet facilities that could potentially be placed close to the market area facing the visitor centre at the opposite side of the road.

At the time of the 2019 mission’s visit, the issues related to the type and localization of toilets (chemical or organic; inside or outside the site; maintenance issues) were not resolved, however it seems likely that there will be no toilets located on site.

Conclusions

The project has already been constructed. Nevertheless, ICOMOS advises that the location of the structure should have been better considered before implementation. It could have been better integrated and in closer connection with the Temple built by Taharqa.

ICOMOS suggests that this project should have been considered as part of a larger reflection in the framework of a tourism management plan for the Gebel Barkal World Heritage property with all its components.

Even this small structure adds development pressure to the property as there is no effective means of protection and control of the site in place. It is crucial that this small structure is not adopted as a nucleus around which other structures will be added in the future, which would consequently transform the limited impact of the present project to a more serious impact. These concerns are justified due to a similar case at the Gebel Barkal component where initially small structures, in the case of the visitor centre and the museum structures, are expanding into a larger building complex.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
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<td>Project</td>
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This project falls within the framework of the Qatar-Sudan Archaeological Project (QSAP) oriented policy towards tourism, which includes in the mandate of the funded archaeological teams the requirement for visitor centres.

There are no details nor explanations about this project in the State Party’s 2019 report on the state of conservation. The only information presented comprises two 3D models and two plans.

The project is planned to be implemented at the Zuma component. However, its exact location is not specified within the provided documents.
The 2019 joint World Heritage Centre/ICOMOS Reactive Monitoring mission included its comments on the project in its report with a detailed description and photos showing the situation during the mission’s visit to the site in February 2019.

Analysis

This is a major project with an architectural programme planning for 4 buildings: an archaeology centre, a laboratory, facilities, and a building with a social benefit that will serve as a community centre.

The project title assumes some kind of community use which is not reflected in the project design. The plans are illegible but the architectural volumes proposed in the 3D visualization raise concerns regarding the inappropriate height of the principal buildings of either side of the main courtyard. The current (unclear) plan information does not suggest a community use but rather an accommodation/lodge purpose. This has to be clarified since even a guest house use might be appropriate to house researchers and archaeologists during their stay at the site.

Conclusions

More information on this project, its management structure and maintenance and localization should be provided.

Within this framework, ICOMOS advises that the National Corporation for Antiquities and Museums takes note of the experience of the International Kurru Archaeological Project regarding the Heritage Community Centre at the Kurru component.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
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This project falls in the framework of the Qatar-Sudan Archaeological Project (QSAP) oriented policy towards tourism, which includes in the mandate of the funded archaeological teams the requirement for visitor centres and the enhancement of the visitor experience at the different components of the World Heritage property.

There are no details nor explanations about this project in the State Party’s 2019 report on the state of conservation. The only information present is one plan and one section, both shown below.

The project is intended to be implemented at the Zuma component, but its exact location is not specified within the documents provided.
Analysis

ICOMOS cannot provide an analysis of the project at this stage based on the provided material.

Nevertheless, it is considered that such type of reconstructions are completely inappropriate in World Heritage contexts. Reconstructions for educative purposes might be justifiable to prevent further erosion or destruction of original remains, especially in case of touristic overuse. But in this case available financial and human resources should be used for preservation and maintenance first, before investing in expensive artificial visitor “experiences” of this kind.

Conclusions

ICOMOS considers that this reconstruction project is cause for concern and should not proceed.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
ICOMOS Technical Review

Property
Gebel Barkal and the Sites of the Napatan Region

State Party
Sudan

Property ID
1073

Date of inscription
2003

Criteria
(i)(ii)(iii)(iv)(vi)

Project
Visitor Centre/Entrance Building at Kurru Component

As explained to the World Heritage Centre/ICOMOS Reactive Monitoring mission, which visited the site in February 2019, this major project is financed by a private donor. It is planned to encompass a visitor centre with a ticketing office, an exhibition space and as a shopping space.
The visitor centre/entrance building is proposed to be constructed a few metres from the north-western limit of the Kurru Component.

The 2019 joint World Heritage Centre/ICOMOS Reactive Monitoring mission included its comments on the project in its report with a detailed description and photos showing the situation during the mission’s visit to the site in February 2019.

The documents were provided to the mission team by the State Party.

Analysis

As presented on the plans, this centre was originally designed to be located at the edge of the main road, i.e. at the extreme north-western side of the proposed buffer zone of the site. However, during the 2019 mission visit to the site, construction had already started on the centre, which was now located only a few metres away from the limits of the Kurru Component.

In terms of design, this project is quite massive and its architectural programme seems to be over dimensioned, even when taking into consideration the potential increase in tourism visits. In comparison, the visitor centre built at the World Heritage property of Archaeological Sites of the Island of Meroe, located at the main touristic site of the Pyramids of Meroe, which was has been planned in the framework of an overall tourism management plan developed for the World Heritage property, proposes 1 shop of a similar size to the ones of this project with potentially a second shop that would be added.

The project is built in the buffer zone proposed on the March 2009 maps provided to the previous 2011 joint World Heritage Centre/ICOMOS/ICCROM Reactive Monitoring mission. This buffer zone offers a clear landscape separating the site from the main road and effectively preserves the integrity of this site. Any development in this area represents a threat to this integrity and must be avoided. Another project of a more reasonable size is planned by the International Kurru Archaeological Project (IKAP) at the linkage between the site and the village, with the full support and involvement of the inhabitants as opposed to the present project.

Given the most likely negative impact of this project on the Outstanding Universal Value (OUV) of the property, on 3 March 2019, the World Heritage Centre sent a letter to the State Party requesting that this project be immediately halted until a thorough evaluation of the project is undertaken. In March and early April 2019, information was provided to the World Heritage Centre claiming that the project was still under construction, which is of high concern.

Since June 2019, the work on the centre has stopped and it is unclear whether funding is available for its further construction.

Conclusions

Given the negative impact of this project on the Outstanding Universal Value of the Kurru component and consequently on the World Heritage property, and given the proposed construction’s inappropriate size and intended commercial use, ICOMOS advises that this project must be completely ruled out.

The alternative proposed by the International Kurru Archaeological Project – i.e. the construction of a Heritage Community Centre - could be adopted as it is a more plausible and sustainable solution.
However, such types of construction that might positively contribute to local economic life if planned carefully together with local stakeholders first require an overall management plan of the entire property to be adopted.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
Between 2013 and 2016, the International Kurru Archaeological Project (IKAP), led by the University of Michigan, excavated a semi-subterranean funerary temple from the 4th century BCE at the south-eastern corner of the site. The structure is built in a former sandstone quarry. It is composed of six underground rooms dug into the rock, and new stone blocks were used to build a wall dividing the quarry into two rooms, the larger of which contained 26 columns that originally would have supported a partial roof.

In order to protect this newly discovered archaeological structure, IKAP proposed to place a shelter over the open part of the structure (where the partial roof was originally placed). It also proposed to build a wall against the adjacent wadi for the protection of the structure from the rain floods.

The roof structure of the shelter is made of a series of parallel trusses made of interconnected steel elements with polycarbonate sheets covering the top. The roof structure works as a bridge over the archaeological features to be protected without needing any supporting pillars inside the archaeological features. It is supported on two sides by a series of interspaced iron H-shaped pillars framed together and set on the edges of the archaeological structure’s limits.
The shelter is situated at the south-eastern corner of the Kurru Component.

The shelter was discussed during the 42nd session of the World Heritage Committee (Manama, 2018). The World Heritage Committee, in its Decision 42 COM 7B.59 “Request[d] the State Party to provide detailed information and documentation on the proposal to construct a cover over the Kurru funerary temple, to the World Heritage Centre for review by the Advisory Bodies” The State Party included the necessary information in its 2019 report on the state of conservation (pp. 28-29).

The 2019 joint World Heritage Centre/ICOMOS Reactive Monitoring mission included its comments on the project in its report with a detailed description and photos showing the situation during the mission’s visit to the site in February 2019.

Analysis

When the joint World Heritage Centre/ICOMOS Reactive Monitoring mission visited the site in February 2019, the project was almost completed, and therefore did not allow any direct suggestions for the improvement to the design, notably to reduce its impact on the site, to be undertaken. The structure of the cover was not yet slid over the temple and the polycarbonate cover had not yet been delivered to the site.

Although from a structural point of view the shelter is well planned, the supporting metallic structure, which also acts as a fence for the archaeology, is very visually intrusive.

The State Party recognizes that the cover will alter somehow the visual appearance of the site and conflicts with UNESCO’s principles on integrity.

According to the architect of the archaeological mission, the cover has been designed to resist to the high winds reaching sometimes 60 km/h at the site. Nevertheless, more options should have been sought and discussed with the Advisory Bodies in order to reach more appropriate solutions.

Conclusions

ICOMOS does not call into question the need to protect the open-air temple located under modern ground level from rainfall. Nevertheless, the shelter should be considered as an immediate response to threats, which should be improved/modified in the future.
Even if the temple is located at the edge of the site, where the land level depreciates to the river level and consequently the shelter would be hardly noticeable from distance, as it is mentioned in the 2019 State Party report on the state of conservation, more solutions should be sought in order to reduce the visual impact of the shelter on the overall integrity of the site.

Although coverage with polycarbonate sheets could be considered as a feasible option, this could change the microclimate below, thus creating a greenhouse effect and damaging the archaeological remains. Consequently, ICOMOS advises that it should be mandatory to install the necessary equipment for monitoring humidity and temperature fluctuations, especially between day and night in addition to the seasonal changes.

From the report, it can be assumed that the funerary complex has been entirely documented and the physical condition of the surfaces examined. It is important to verify that the condition prior to the final installation of the shelter is appropriately researched and the available information accessible at the site and with the experts of the central government. A monitoring system should include the installation of appropriate measuring devices at different height levels, ideally in shadowed areas directly below the shelter and at the bottom level. It has to be ensured that these devices are checked regularly. Capacity-building activities in the future should include mandatory exercises in the interpretation of environmental data and the direct relationship of varying climatic conditions with potentially harmful alterations to exposed archaeological surfaces.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
As it was explained to the World Heritage Centre/ICOMOS Reactive Monitoring mission team, who visited the site in February 2019, and as it is also shown on the plans, the project proposes to protect the tomb and its entrance by closing the roof that once covered them and has now collapsed.

The first rows of the barrel vault that was once covering the tomb still stands in place.

The State Party proposes three different scenarios from which one should be chosen:

1) Scenario 1 proposes to complete the vault with new blocks and restitute the antique shape of the tomb interior.
2) Scenario 2 proposes to add a large slab over the top and carve it from the inside in order to restitute the interior shape of the vault.
3) Scenario 3 proposes to leave the tomb and its structure untouched and build a vaulted shelter over and around it in order to ensure its protection.

The three scenarios are schematically presented in a series of 8 different plates with few execution details and explanations of the works to be implemented.

The grouting of the fragile interior walls of the tomb is proposed along with the protection scheme and it is intended to use a cement-base grouting mix (SIKA Grout).

The project proposes to rehabilitate part of the staircase and leave part of it untouched “in order to keep the archaeological authenticity” as it is claimed in the presented plates.
The tomb is located at the centre of the Kurru Component.

Plans and explanations were provided to the Reactive Monitoring mission by the State Party during its visit to the site in February 2019.

Analysis

As presented in the plans, the information regarding the detailed procedures to be implemented is not sufficient. The three proposals are as follows:
- Scenario 1 is a straightforward reconstruction of the vault – which in the World Heritage context has to be decided carefully based on thorough investigation and thorough research. The information provided so far does not justify an intervention of this type.
- Scenario 2 is technically very risky since the slab that is proposed to be added on top of the existing vault courses then carved from the interior will be very heavy and it will exert extra load and pressure on the courses of the vault, which will result in their collapse.
- Scenario 3, although it is the proposal that practically has no direct physical contact with the tomb structure, has a high visual impact on the integrity of the site.

The cement base grout that is proposed usually exists in different mixes. There are no further indications in the presented plans on the specific type of the mix that will be used. Usually, the one that is used is the multipurpose SIKA GROUT 212. However, cement-based grouts can have many negative side effects on the archaeological structure. Consequently, it should not be used.

The intervention on the staircase seems very intrusive, even if half of it (as it is explained in the plates) will be preserved without any intervention.

**Analysis of the structural condition**

In this specific case, the original lower courses of the barrel vault are still present but in a structurally unstable state. When the vault lost its upper courses, and namely the keystone course, the remaining stones of the lower courses of the vault lost the load which used to exert the needed lateral thrust on them; the thrust that is needed in order to maintain them in place. Consequently, in the present conditions, they will definitely fall under the simple action of gravity whenever the binding strength of the earth material maintaining them in place is lost. This could happen with the first heavy rainfall. Thus, a solution is needed in order to re-establish this lost load/thrust in order for the remaining stones to hold in place. The water infiltration inside the tomb should also be taken into consideration.

The structural condition can be remediated in different ways.

1. Wooden beams can be inserted between the two branches of the vault arches in order to exert a lateral force maintaining the stones in place. But this solution is a temporary solution and is aesthetically very bold.

   Furthermore, this solution will not solve the problem of rainwater infiltration inside the tomb unless a waterproofing solution is found and adopted along with the structural stabilization solution. A temporary shelter could provide this protection.

2. A wooden vault structure could be constructed and placed on top of the existing courses of the vault, thus replacing the lost part of the vault and exerting the same load as the real vault would do by adding earth fill on its top. The interior surface of this wooden vault could then be chromatically treated in order to merge with the tomb environment.

   This solution is reversible and would restitute the exact shape of the original vault without compromising the integrity of the monument.

   The inconvenience is that this solution has a life span and the wooden structure should be continuously monitored and changed whenever it presents signs of instability.

   Although such a solution reduces to a certain extent the rainwater infiltration, it cannot stop it completely unless a waterproofing solution is added to the structural stabilization solution.
Therefore, a lightweight temporary shelter and a controlled conduct of rainwaters should be designed to reduce the threat of uncontrolled water influx.

Conclusions

ICOMOS advises that the following be taken into consideration:

1- Avoid the use of the cement-based Sika Grout completely and only use lime-based material in the consolidation of the archaeological material and structures.
2- Avoid any direct intervention on the staircase and try to find non-invasive solutions like the one used by the IKAP team for the staircase of KU.1 tomb.
3- Before any new scenario is envisaged, extensive documentation of the existing condition and thorough scientific research of the archaeological context should be considered along with detailed structural studies. The level of expertise, as well as experience and practice required in such delicate interventions, has to be proven both by executing and managing agencies.
4- The scale of the management problems that are apparent at the site has to be addressed prior to considering interventions of such scale.

In the meantime, a simple temporary shelter construction with a simple stabilization solution of the lower courses of the vault, based on principles of reversibility and efficiency of means, should be considered.

If considered unstable at the moment, the tomb should be closed to visitors until a proper solution is found and implemented.

Activities of this kind should be elaborated as a priority measure within the Action Plan recommended by the present mission.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
As explained in the State Party’s 2019 report on the state of conservation, the International Kurru Archaeological Project (IKAP) proposal for a viewing platform (sketch below) would provide capacity for 25 people (5 x 5 m area). It would be made of steel, be 2.3 m high, could be shaded and have benches, and would have a panoramic label that would identify features of the site. The platform supports would be built at the same angle as the pyramid slope, and the shade cast by the viewing platform could be a place for tour guides to speak with their groups.

The archaeological team also recognize that a viewing platform represents an alteration of the visual landscape of the site, nevertheless, they propose it for two reasons. First, the key historical importance of El-Kurru is the transition from early Kushite burial mounds to increasingly Egyptian styles of burial, culminating in small pyramids with enclosure walls, chapels, and underground burial chambers. Since most of these burials survive only as a single course of stones (the rest having been robbed in medieval times), a viewing platform is claimed to give visitors a way to see this transformation at the same time as it would give them an opportunity to understand the way the cemetery is organized as a whole. Second, it is claimed that the viewing platform would reduce the need for visitors to climb the single substantially preserved pyramid at the site—this activity significantly threatens the preservation of the facing stones of the pyramid.

This project is part of a bilingual (Arabic/English) walking tour that includes interpretation signage. The tour focuses not only on the archaeological experience of the site, but on the better understanding of the local culture of the villages surrounding the site. Details on the information that will be displayed on the interpretation panels have been provided in the project proposal.

The viewing platform is proposed to be constructed at the centre of the Kurru component.
Analysis

ICOMOS considers that in addition to its potential adverse impact on the sensitive conditions of the archaeological grounds in the area of its proposed construction, the viewing platform would definitely have a visual impact on the integrity of the site, and that the need for its construction is not justified.

The site was experienced, by the people who built it and used it, from ground level. In this context, the pyramid was also viewed and appreciated from ground level. As for the other archaeological features, they can also be appreciated from ground level as it was the case in ancient times.

There are other ways to explain the site and its setting using different sorts of media.

Conclusions

ICOMOS advises that the construction of the viewing platform is not recommended as it will have a negative impact on the sensitive conditions of the archaeological grounds in the area of its proposed construction and a negative visual impact on the integrity of the site.

Solutions for explaining the site to the visitors could be sought through different media, e.g. panels with aerial photos and site plans. 3D reconstructions of the site would also be very important for the interpretation and the understanding of the site by the visitors. The different media could be placed inside the Community Heritage Centre, along with other explanatory material.

ICOMOS also advises that a management plan for the property should be developed, and issues of conservation, presentation and visitor management in general discussed, before the State Party considers individual interventions of such level of detail.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
As explained in the State Party’s 2019 report on the state of conservation, the centre would occupy an area of about 40 x 20 m and be built of locally made red bricks covered with a cement plaster and painted white. It would be accessed by a walkway from the current access to the site, partially shaded with jereed (palm frond) and trees, and would have a station of zirs (Sudanese water jars) in front. The plan of the centre would be open, with a reception area and shop, two exhibition areas (one on archaeology at the site and one on local heritage and culture), and a cafeteria arranged around a shaded courtyard with a central area open to the sky. A larger area of the courtyard would provide views of the site and could be used for seating for meals or for events. A kitchen, storeroom/office, four toilets, and space for additional rooms to be constructed later would also be included (a series of 16 detailed execution plans are included with the proposal).

The archaeology exhibition will aim to illustrate important contexts for El-Kurru that are not otherwise visible on the site. It will, for example, discuss the Kushite conquest and occupation of Egypt and will present the ways in which Kushite royal women held significant power and influence. The display will include a large-scale photo of a statue of Tanwetamani found at Kerma. It will discuss the medieval Christian kingdom of Makuria of which El-Kurru would have been a part, and it will provide images of objects found by George Reisner in his 1919 excavations that are now displayed at the Museum of Fine Arts, Boston.

Material for the local heritage and culture exhibition at the site has been developed in part through a series of photo contests the University of Michigan team have held in El-Kurru over the past three years. Each year, nearly 500 photos of life in the village are submitted for review by a panel of judges that has included residents of El- Kurru, a representative from NCAM, and members of the archaeological project. They have selected 10 winners (who receive prizes), and each prize winner is asked to explain what their photos meant to them—these statements are the basis for captions (in Arabic and English) so that local culture is presented through the eyes and in the voice of people who live there.
The Community Heritage Centre is proposed to be constructed outside at the edge of the boundaries of the Kurru component. The area at the eastern corner outside the site is proposed because it is a piece of land free from construction.

Analysis

Taken from the image visualization of the project, it visually fits and shows great architectural sensitivity; it takes into consideration the existing rural fabric and the needs of the community in addition to providing visitors with an interesting experience of the local culture, with a positive impact on the site.

As it is presented, the Community Heritage Centre is well integrated within the village in terms of typology, shape and height, and blends well into its landscape, partly hiding the nearby urban encroachment towards the property.
This project falls in the framework of the Qatar-Sudan Archaeological Project (QSAP) oriented towards tourism, which includes in the mandate of the funded archaeological teams the requirement for visitor centres.

The proposal is based on discussions with the local community which expressed their interest in having more interaction with visitors and having visitors learn more about their life in the village, including the possibility to taste local food. The project will link the visitors to the inhabitants. Consequently, visitors would not focus exclusively on archaeology but would also interact with local culture and vice-versa. Furthermore, the centre would also be a space for use by the community.

During the 2019 Reactive Monitoring mission, the local community confirmed their enthusiasm for this project, which is a strong basis for its sustainability. The location and programme chosen for the building adequately reflect the wish of the local community to connect with the visitors.

It was also understood by the 2019 Reactive Monitoring mission that the persons that will contribute to the running of the building have already been identified among the community and that a local cook book is being developed for the purpose of offering local dishes with their recipes to the visitors.

**Conclusions**

On the basis of the analysis set out above, ICOMOS advises that the implementation of the Community Heritage Centre should be encouraged since it will sustainably contribute to the management of the site and its visitors.

Moreover, it will play a fundamental role in linking the village’s local community to the site, which receives their attention and protection.

However, ICOMOS considers that such ideas must be integrated into a broader management plan of the property that also takes into consideration general access/visitor flows and especially the movement of vehicles as a result of such interventions.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
ICOMOS Technical Review

Property: Gebel Barkal and the Sites of the Napatan Region  
State Party: Sudan  
Property ID: 1073  
Date of inscription: 2003  
Criteria: (i)(ii)(iii)(iv)(vi)  
Project: Cover for the staircase for of pyramid Ku.1 at Kurru Component

As explained in the State Party’s 2019 report on the state of conservation, the International Kurru Archaeological Project (IKAP) has designed a cover for the staircase of Ku. 1. The scientific responsible are the University of Michigan - University of Copenhagen.

The aim was to keep the burial chambers of the pyramid open without any risk of being filled with sand, sediments or rainwater during the rain flood season. The cover was designed to be at the same level as the ground surface in order to preserve the integrity of the site in terms of visual impact, but also to provide comfortable and safe access to the underground chambers by way of a metal staircase with concrete slabs set on the pyramid steps with protective interface material.

The cover is situated over the staircase of the KU.1 Pyramid situated at the centre of the Kurru Component.

The State Party included the necessary information in its 2019 report on the state of conservation.
The 2019 joint World Heritage Centre/ICOMOS Reactive Monitoring mission included its comments on the project in its report with a detailed description and photos showing the situation during the mission’s visit to the site in February 2019.

Analysis

When the Reactive Monitoring mission visited the site in February 2019, the project had already been completed. Nevertheless, the mission considered that the shelter over the staircase of the pyramid was effective, with hardly any visual impact on the site.

The cover, built on the ground level, protects the access to the excavated tombs and secures the access of visitors. The drainage system is well designed. Removable protective structures made of iron beams and an iron net have been added inside the burial chamber to enhance security.

Based on the description and the photographs provided this can be assumed a good example of expertise and practice of intervention at the site.

Conclusions

On the basis of the analysis set out above, ICOMOS advises the following:

- A yearly maintenance of the iron elements and the cover should be undertaken in order to prevent rust and any risk on visitors.
- The iron net on the level of the ceiling of the tomb should be continuously monitored and checked for the purpose of visitor safety.
- Chromatic treatment of the metallic structures and the concrete slabs could be envisaged for a better integration with the general environment of the site.
- The system of maintenance should be considered within a management framework for the entire property.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
ICOMOS Technical Review

Property Gebel Barkal and the Sites of the Napatan Region
State Party Sudan
Property ID 1073
Date of inscription 2003
Criteria (i)(ii)(iii)(iv)(vi)
Project Improvement of the access to painted tombs of Qalhata and Tanwetamani

As explained in the State Party’s 2019 report on the state of conservation, the International Kurru Archaeological Project (IKAP), under the scientific direction of the University of Michigan, is proposing to make access to the painted tombs of Qalhata and Tanwetamani “significantly easier” by extending the entrances as detailed in the drawings below. For this purpose, they suggest adding 3 steps to the stairway and extending the existing vault to a higher level to allow visitors to walk directly into the tomb. To do this, they propose to excavate new steps in the bedrock in front of the current entrance to the tomb, which would be covered with concrete. This would reduce the large difference in levels between the entrance platform and the first step of the existing staircase.

They would also add a handrail along the existing steps in the descendaries that would be fixed in the existing cement rather than into stone. A new extension barrel vault would be added in front of the existing one to cover the entire system.
The painted tombs of Qalhata and Tanwetamani are situated at the centre of the Kurru component, one to the centre east and the other to the centre west.

The State Party included the necessary information in its 2019 report on the state of conservation.

The 2019 joint World Heritage Centre/ICOMOS Reactive Monitoring mission included its comments on the project in its report with a detailed description and photos showing the situation during the mission’s visit to the site in February 2019.

**Analysis**

The existing vaults constructed over both tombs are already considered as intrusive and present a visual impact on the integrity of the site. They were accepted because they date from the early excavation period where there were few options available for the protection of the tombs. That said, any additional construction, even if it is not of large dimensions, will definitely add to this intrusiveness.

Excavating the rock substratum in order to make additional steps is also not to be advised since it will modify the original archaeological ground level and shape in front of the tomb staircase.

**Conclusions**

ICOMOS would advise that the excavation of the rock substratum in order to make additional steps, the addition of a new extension to the existing vault and the addition of concrete over the archaeological staircase should not be implemented.

The solution that should be sought is to keep the existing vault as it is and to install a metallic frame structure on which concrete or stone slabs could be fitted, similar to the staircase at the KU.1 tomb.

This alternative is considered to be more appropriate and proves to be functional as can be studied at the KU.1 tomb. The difference in levels between the entrance platform and the first step could then be compensated over the length of the new staircase frame structure in order to make the descent smooth enough for the visitors.

For any future management of the site, the removal of the old protection vaults should be considered. They could then be replaced with a flat cover, similar to the one made for the KU.1 tomb.
A list of appropriate conservation and protection measures should be added to a conservation manual as part of the management plan for the property.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019

Annexe: Images of the staircase and cover implemented at KU.1 tomb

The example of staircase implemented in KU.1

The example of the cover implemented over KU.1 staircase
As explained in the State Party’s 2019 report on the state of conservation, the International Kurru Archaeological Project (IKAP) has established a walking tour since 2018 in order to allow visitors to better understand the site.

The pathways are part of the drafted plan and they pass by the most significant monuments that will be explained during the different onsite tours.

The decision to use stones for the construction of the pathways is made based on the solidity and strength this material provides, in addition to its low maintenance needs.

The pathways are situated all over the archaeological site inside the Kurru component.

Analysis

It is very well understood that pathways are needed in order to channel the visitors inside the archaeological site.

When covered with a thin layer of sand, the pathways blend perfectly with the environment of the site. This was noticed during the I2019 mission’s visit to the Kurru component in February 2019.

Conclusions

ICOMOS advises that a yearly maintenance of the stone elements and the joints should be undertaken in order to prevent any risk to visitors. The regular maintenance of the pathway should include a safety check that the stones are well fixed onto the ground.
From the images provided, it is not clear whether the joints between the stones are intentionally left entirely open to allow for direct drainage of rainwater. ICOMOS considers that concrete/cement should be avoided as a general principle for constructing pathways and lime enhanced mortars should be used instead.

Chromatic treatment of the stones, or even their coverage with a thin layer of sand, could be envisaged for a better integration with the general environment of the site and consequently a reduction in their visual impact.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
Lately, the State Party has physically demarcated the Kurru component’s north-western boundary on the ground by a wall and an entrance gate.

This gate entrance, surrounded by two small constructions in mud brick on both inner sides (ticket room and toilet facilities), were not operational at the time of the World Heritage Centre/ICOMOS Reactive Monitoring mission’s visit in February 2019. A metal door painted yellow closes the gate, but access is still possible from the sides, which gives a symbolic function to the gate.

Two flags are overhanging the gate - the Sudanese UNESCO flag and the Sudanese flag - and a painted inscription refers to UNESCO and the name of the site in Arabic and English.

The gate is constructed at the north-western limit of the Kurru Component.

**Analysis**

This gate has no functional use at the moment since the site can be accessed from different sides, namely from the eastern side where the Heritage Community Centre is proposed to be built.

According to personnel from the National Corporation for Antiquities and Museums (NCAM), the gate was constructed before the visitor centre project was proposed.

Following the request of the World Heritage Centre, the visitor centre project was cancelled and its construction stopped. Consequently, the gate will continue to have no functional use by being on this side of the site boundary.

The gate is not visible from the site interior since the latter is situated in a topographical depression. Consequently, the gate is not very intrusive within the visual landscape of the site.
Conclusions

ICOMOS advises that the State Party:

- Keep the gate as an indicator of the boundary of the component;
- Use the gate as a secondary vehicle entrance to the site in case of emergency;
- Change the use of the two small constructions to functions that fit within the overall management framework of the site;
- Complete the delimitation of the component’s boundary with short concrete pylons in order to finalize the protection procedures of the site;
- Keep the landscape in front of the gate cleared from any construction.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
## ICOMOS Technical Review

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This project falls in the framework of the Qatar-Sudan Archaeological Project (QSAP) oriented towards tourism, which includes in the mandate of the funded archaeological teams the requirement for visitor centres. The structure and the interior were almost finished when the joint World Heritage Centre/ICOMOS Reactive Monitoring mission visited the site in February 2019.

The structure consists of two halls with an annex covered by a pergola-like roof which will act as a resting space for the visitors.

The finishing and the interior of the halls was poorly executed and there were no operation programme envisaged by the National Corporation of Antiquities and Museums (NCAM) staff.
The visitor centre building is located at the centre of the Gebel Barkal component, beside the old dig house that was later transformed into a museum.

The project documents were provided to the 2019 mission by the State Party during the visit to the site in February 2019.

The 2019 mission included its comments on the project in its report with a detailed description and photos showing the situation during the mission’s visit to the site in February 2019.

**Analysis**

The structure of the so-called visitor centre is poorly executed.
It is also worthwhile noting that the visitor centre and the remaining facilities, even if they are small, will be the highest building on the site, which is mainly flat except for the hill of Gebel Barkal. Its location is therefore questionable.

**Conclusions**

ICOMOS suggests that this project should have been considered as part of a larger reflection in the framework of a tourism management plan for the Gebel Barkal World Heritage property with all its components.

The structure of the visitor centre along with the museum and the other dependencies need to be rethought, and the transfer to another more suitable location should be considered.

A new visitor centre, if needed, should be implemented outside the boundaries of the Gebel Barkal component.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019
ICOMOS Technical Review

Property: Gebel Barkal and the Sites of the Napatan Region  
State Party: Sudan  
Property ID: 1073  
Date of inscription: 2003  
Criteria: (i)(ii)(iii)(iv)(vi)  
Project: Museum at Gebel Barkal Component

This project falls in the framework of the Qatar-Sudan Archaeological Project (QSAP) oriented towards tourism, which includes in the mandate of the funded archaeological teams the requirement for visitor centres, and, in the case of the Gebel Barkal component, the requirement to upgrade the museum and its storage facilities.

During the visit of the joint World Heritage Centre/ICOMOS Reactive Monitoring mission in February 2019, work on the additional storage structures was beginning but the rehabilitation of the museum had not yet begun.
The museum building is located at the centre of the Gebel Barkal component. It was originally the old dig house that was later transformed into a museum.

The project documents were provided to the 2019 mission by the State Party during the visit to the site in February 2019.

The 2019 mission included its comments on the project in its report with a detailed description and photos showing the situation during the mission’s visit to the site in February 2019.
Analysis

The structure and architecture of the museum building is not adequate for exhibiting archaeological objects. The structure is designed with glass windows on the top level of all its walls. Those windows are easily breakable, making their presence an additional security risk factor, and they do not prevent rainwater infiltration inside the rooms. This is just one detail among many which make the structure inadequate for hosting any type of museum or exhibition spaces. The addition of more storage and exhibition space does not affect this assessment. It is also worthwhile noting that the museum building and its storage, even if they are small, will be the highest building on the site, which is mainly flat except for the hill of Gebel Barkal. Its location is therefore questionable.

Conclusions

ICOMOS suggests that this project should have been considered as part of a larger reflection in the framework of a tourism management plan for the Gebel Barkal World Heritage property with all its components.

The 2019 joint World Heritage Centre/ICOMOS Reactive Monitoring Mission recommended reconsidering the funds dedicated to the museum and storage upgrade. Instead of proposing a repair of this museum structure, the focus should be laid rather on the documentation and conservation of the museum objects.

The structure of the museum needs to be rethought, and the transfer of the entire collection to another, more suitable location should be considered.

A new museum, if needed, should be implemented outside the boundaries of the Gebel Barkal Component, and its concept, content and design should comply with international standards.

With regard to the museum objects in particular, ICOMOS suggests that the following approach is taken:

1. Documentation and inventory, consisting of the setting up of a systematic inventory of the existing objects including their documentation;
2. Relocation of the objects to a safe place after the evaluation of their state of conservation, and storing them in secure boxes;
3. Planning the presentation of objects under appropriate conditions within a management plan framework for the property.

ICOMOS remains at the disposal of the State Party for further clarification on the above or assistance as required.

ICOMOS, Charenton-le-Pont
September 2019