

# State of Conservation – 2024

## Rangiri Dambulla Cave Temple



**Department of Archaeology  
Central Cultural Fund  
Sri Lanka  
30<sup>th</sup> November 2024**

# **STATE OF CONSERVATION REPORT -2024**

## **Rangiri Dambulla Cave Temple (Sri Lanka)**

**Submitted to the UNESCO World Heritage Centre in response to the Decision 45 COM 7B.173 of the World Heritage Committee made at the Extended 45th session of the World Heritage Committee, held in Riyadh, Kingdom of Saudi Arabia, from 10-25 September 2023.**

# STATE OF CONSERVATION REPORT

## Rangiri Dambulla Cave Temple, Sri Lanka

### Introduction

The present report is in response to the Decision 45 COM 7B.173 of the UNESCO World Heritage Committee made at its Extended 45th session in Riyadh, Kingdom of Saudi Arabia from 10-25 September 2023 on the state of conservation of the World Heritage property of Rangiri Dambulla Cave Temple in Sri Lanka. The report contains responses to seven Decisions of the World Heritage Committee (WHC) Decision. The Decision no. 1 asks the State Party to respond to 21 recommendations of the Reactive Monitoring Mission (RMM) made in 2023. In addition, the report responds to six more Decisions of the WHC. Accordingly, the report has responded to those 21 RMM recommendations and 06 WHC Decisions.

However, two cases of overlapping areas in the RMM Recommendations were noted. In such cases, those Recommendations were responded together. Examples of such overlapping recommendations are, 1.6 and 1.7; and 1.14 and 1.15.

Furthermore, four of the seven WHC Decisions were found to have derived from the same issues linked to several RMM Recommendations. Examples of such decisions are given below.

Decision 3 -- 1.16 and 1.21

Decision 4 -- 1.6 and 1.7

Decision 5 -- 1.1 and 1.12

Decision 6 -- 1.14 and 1.15

The report begins by responding to the WHC Decision 01 that requests to respond to all the RMM Recommendations. Therefore, the report continues with responding to the 21 RMM recommendations with numbers 1.1, 1.2, 1.3 and so on up to 1.21. Thereafter, the report continues with responding to Decisions from 2 to 7. Additionally, the report also has three annexes that provide detailed responses to RMM Recommendations of 1.8, 1.12, and 1.17.

## 2. Responses to the Decisions of the World Heritage Committee (WHC)

**WHC Decision 1.** *Commends the State Party on inviting a joint World Heritage Centre/ICOMOS Reactive Monitoring mission to the property, and urges the State Party to implement all the recommendations of the mission;*

The Mission has made a total of 21 recommendations with different levels of priority. Given below are responses to each of the 21 recommendations.

**RMM Recommendation 1.1:** *Preventive intervention should be prioritized, and identifying the root cause of water damage to the artwork inside the cave shrines and determining (a) sustainable solution(s) to arrest the expansion of the problem should be expedited. A multidisciplinary research approach that includes geomorphological, hydrological, and topographic factors and human actions in the vicinity of the property should be considered. A plan to tackle these important challenges should also be clearly stated in the property's Management Plan. PRIORITY: HIGH*

### Response

Action to address the issue of water damage has already begun. A UNESCO Consultant, Prof. Claudio Margottini who is UNESCO Chair on Prevention and Sustainable Management of Geo-Hydrological Hazards at the Florence University was entrusted to carry out a preliminary field investigation from 17 to 22 October 2023. Prof. Maragottini conducted an initial field investigation at the site, accompanied by researchers from the CCF and DoA, a photographer, and a drone pilot. Following this, he submitted an initial report recommending a detailed drone survey with high-resolution imagery to capture inaccessible areas of the rock. The CCF subsequently engaged a renowned drone company to conduct a comprehensive drone survey of the upper area of the rock.

Prof. Maragottini has identified three main issues as stated below.

- Existence of dominant drain and main flow paths in the rock mass,
- Occurrence of multiple drains and articulated network of fractures,
- Prevalence of dispersive structure and well interconnected joint sets

Incorporating the drone survey data, Prof. Maragottini submitted his final report with the following key recommendations:

1. **Investigate impermeable materials:** Explore suitable materials to create impermeable barriers, particularly in areas above the temple caves. These materials should ideally be salt-free and devoid of unexpected chemical reactions like hydrocarbonation, which can occur with cement.
2. **Material Research:** Conduct thorough research to identify a range of potential materials and solutions that could effectively address the site's specific conservation needs.

Prof. Maragottini is currently actively engaged in researching the most suitable materials to provide a diverse array of potential solutions.

A report with his findings and suggestions for more advanced field investigations, titled 'Overview of Dambulla Site and Threats, Degaldoruwa and Gadaladeniya' (UNESCO New Delhi 2023) has already been considered by the DoA and CCF. Accordingly, the DoA and the CCF will invite Prof. Margottini to carry out the proposed further investigations in 2025 and

recommend preventive conservation measures. A multidisciplinary team of Sri Lankan experts in the fields of Geology, Microbiology, Micro-environmental Science affiliated with the University of Peradeniya, University of Kelaniya, University of Colombo, and the University of Moratuwa will assist the DoA and the CCF in the implementation of Prof. Margottini's recommendations, and also in developing a post-treatment monitoring plan. The DoA and the CCF have given top priority to this project and expect the issue of water infiltration inside the caves to be fully addressed by the end of 2026. Prof. Maragottini has proposed to conduct a follow-up capacity-building workshop on "Water and Monuments" at a future date for the same team of officials.

A team of officials of the DoA and the CCF working on the property participated in a national capacity-building workshop organized by UNESCO New Delhi office, led by Ms. Junhi Han, and conducted by the renowned stone conservation expert Dr. Simon Warrack who served as the facilitator of the workshop. The Director-General of the CCF has requested UNESCO New Delhi Office to organize a follow-up training program specially focused on the biological deterioration of stone monuments.

**RMM Recommendation 1.2:** *Benchmarks for various site conditions and systematic data collection and analysis, regular monitoring should be established, and actions concerning various types of damage and effectiveness of conservation interventions should be reviewed. PRIORITY: HIGH*

## Response

A new project will soon be implemented with funding support from a UNESCO NFIT Grant received by the DoA and the CCF recently. The project aims to address the issues of ambient humidity, surface water content, seepage of water, light intensity, and visitor density. The expected project outcomes have been identified and are tabulated as follows.

Site conditions	Proposed Benchmark	Systematic Data Collection	Analysis	Regular Monitoring
Ambient air humidity	40- 50%	Continuous measuring using data loggers	Intended analysis is done in June and December to correlate micro environmental conditions with deterioration conditions	To be determined
Surface water content		Measure daily at 9 am & 3 pm at wet surfaces	Intended analysis is done June and December to	To be determined

			implement preventive conservation strategies	
Seepage		If necessary		
Light intensity	Lux 50	Measured daily	Correlate with algal growth	To be determined
Visitor density	Persons inside caves Cave 01 -10 Cave 02 – 70 Cave 03 – 30 Cave 04 – 10 Cave 05 – 10		Correlate with micro environmental conditions	To be determined

**RMM Recommendation 1.3:** *Establish a system for recording condition assessment, conservation actions and monitoring data – both qualitative and quantitative – digitally and link it to an accessible trend analysis system.*  
**PRIORITY: HIGH**

## Response

The condition of the murals in the caves and their state of conservation have been documented mostly manually for the past three decades. For example, the condition in Cave 1 and Cave 4 is fully documented, while 40% of the painted surfaces of Cave 2 is documented. This documentation program has produced four types of documents as follows:

**Type 1:** 1m x1m area of painted surface, following the Grid Plan for walls, statues, and ceiling, recorded in 1:5 scale on a A3 paper recording the condition of painted surface using a system of symbols.

**Type 2:** Large folio sheets showing patterns of deterioration on large areas.

**Type 3:** Color and line studies; and

**Type 4:** Special large-scale drawings recording the details of deterioration and their exact locations.

Currently the documentation produced under Type 1 mentioned above is being scanned. The purpose of scanning as such is to integrate those documents with a computerized system that would process the visual data to extract qualitative and quantitative information for analysis. Such analyses will help the conservators to more accurately assess the deterioration of the murals to plan intervention protocols and procedures. The DoA and the CCF are currently discussing the project details with Software Engineering experts. It is intended to digitize all types of documentation mentioned above.

**RMM Recommendation 1.4:** *Differences between the primary stakeholders concerning the use of 3D laser scanning in documenting the property should be resolved. Examples of the use of laser scanning in documenting comparable sites and the demonstration of 3D data's use in documentation, damage assessment, estimation of conservation work, heritage interpretation and public education may be explored as a persuasion tool. Experts in such technologies may be invited to explain with scientific data the safety of laser scanning technology. **PRIORITY: HIGH***

### Response

The DoA in collaboration with the CCF has appointed a Working Committee for Preventive Measures and Immediate Actions entrusted with the task of resolving the disputes regarding the use of 3D laser scanning technology for documentation. The Committee is planning to have consultations with parties that are reluctant to apply the technology at Dambulla and convince such parties of the potential benefits of it by way of scientific demonstrations as well as by showing previous examples of sites that have benefitted from using the technology. Committee's work takes time as expected and the Committee expects to complete this task and report to the DoA by mid-March 2025.

Furthermore, the Director-General of the CCF plans to build capacity among the officials in 3D scanning and photogrammetry. To this end, the CCF is planning to request UNESCO support to organize a customized capacity-building workshop. This initiative will help CCF officials to acquire necessary skills in advanced documentation methods with the help of expert trainers.

**RMM Recommendation 1.5:** *An inventory of all historical and current records related to the property should be prepared and indexed with appropriate cross-references. **PRIORITY: HIGH***

### Response

A two-member team of a painting conservator and a research assistant has already begun the identification of all historical and current records connected with various aspects of the property including its management. The team has identified the following documents to-date.

- a) Historical chronicles containing information about the original construction of the property and its subsequent expansions, repairs, refurbishments etc. Those documents include the *Mahavamsa*, *Culavamsa*, *Nilagama Thudapatha*, *Dambulla Thudapatha*, (a *Thudapatha* is a handwritten record of a grant of land and other gifts to individuals by Sinhala rulers for exemplary services by such individuals to the king).
- b) Records on previous research including archaeological explorations and excavations, administrative reports.
- c) Reports on architectural conservation work.
- d) Reports on wall painting conservation treatments.
- e) Heritage management plans and reports.



- f) Records on workshops and other training programs conducted by international organizations such as UNESCO, ICCROM etc.
- g) Details on workshops and other training programs conducted by international experts in conservation and management.
- h) Reports submitted by Sri Lankan experts on various aspects of conservation and management.
- i) Plans and other reports on the property prepared by various agencies.
- j) Books and academic writings, magazine and journal articles written on the property.
- k) Scientific writings on the materials and techniques of paintings

Once the identification of the documents is completed, the team will begin inventorying the documents with indexing and cross-referencing. This work can be commenced only in February 2025 when funds are made available for that purpose from the national budget allocation for the new year.

**Recommendations 1.6 and 1.7 are addressed together as follows due to the overlapping nature of the two issues.**

**RMM Recommendation 1.6:** *Identify gaps in current records by analysing the documentation inventory and base future documentation activity plans on the analysis.* **PRIORITY: HIGH**

**RMM Recommendation 1.7:** *Adopt digital technologies in recording data, quantifying the data where appropriate and linking the data to a management information system.* **PRIORITY: MEDIUM**

#### **Response to 1.6 and 1.7 together.**

The two recommendations address shortcomings in the current systems in recording and retrieval of data. Therefore, the two recommendations are taken together for responding as both shortcomings can be addressed through implementing a single digital technology project.

An inquiry was conducted to assess the situation that created the gaps in the current recording system. Following the discussions with the team of conservators and other management team members and analysis of the data collected, it was possible to identify several root causes that are responsible for the shortcomings in the system of record keeping. The main findings of the inquiry are stated below.

- a) Lack of knowledge of digital data recording methods with multidisciplinary approaches among the conservators.
- b) Absence of a consensus among the conservators regarding a documentation policy, its objectives, and convenience for data retrieval etc.
- c) Failure to keep condition inspection reports and conservation treatment reports together.



- d) Absence of uniformity among the books and cards used for data recording.
- e) Failure to use computerized data storing methods.
- f) Absence of staff with proper training in digital documentation methods.
- g) Lack of computers, scanners, and printers.
- h) Absence of a database of the documented information.

A decision has been made to take immediate action to bridge this gap in the documentation and record keeping practices of the CCF. A decision has been made to obtain the services of an expert in digital technologies to develop a suitable digital inventorying system for all data documenting needs of the Dambulla project, and to provide training in digital documentation methodologies to painting conservators and other staff who needs it. This work will commence only in February 2025 when funds are made available from the national budget allocations for the new year.

Furthermore, the Director-General of the CCF has allocated funds for the fiscal year 2025 to conduct training workshops on photogrammetry and digital documentation methods for the conservation staff of the DoA and the CCF.

**RMM Recommendation 1.8:** *Restructure the Management Plan and categorize management issues by linking them to specific attributes of the OUV of the property* **PRIORITY: HIGH**

### Response

A detailed response to this recommendation is given in **ANNEX 1**.

**RMM Recommendation 1.9:** *Incorporate baseline information in the Management Plan and link them to monitoring the work progress for each attribute.* **PRIORITY: HIGH**

### Response

Incorporation of baseline information in the Management Plan according to the attributes has already begun and its work is in progress. Collecting the baseline information for Caves no. 1 and 4 have been completed, and for Cave 2 is still ongoing. Once this phase of baseline data collection is completed, it will be linked to the Management Plan as an Annex.

The progress of work as per each category of deterioration will be monitored biannually using a comparative analysis by a committee of relevant authorities and the findings will be presented as bar charts, and pie-charts. This work will enable the conservators to carryout long-term comparative assessment. The conservators will use these findings to continue, discontinue, or adjust their intervention methods which will be submitted in a document titled “Revised Intervention Procedures” to the committee of relevant authorities.

**RMM Recommendation 1.10:** *Incorporate the archaeological remains at the base of the Dambulla rock (a monastic chapter house, bo-tree temple, dagoba), rock shelters and caves reflecting historical phases of the site's development from the megalithic period to the present time in the Management Plan more explicitly.* **PRIORITY: HIGH**

### Response

Although the issue had been identified and the remedial action been proposed in the Revised Management Plan (Issue no. 14 and Action no. 14), elaboration of the significance of those archaeological remains as attributes upholding the OUV of the property has been inadvertently omitted. The Management Committee admits the unintended omission and have decided to incorporate those heritage components into the Management Plan. As the current Management Plan will be out of date by 2026, the DoA and the CCF have decided to revise the current Management Plan around mid-2025, which will come into operation for the next seven-year period (2027-2033). The decision to incorporating all Mission Recommendations and WHC Advisors including this one has already been taken.

**RMM Recommendation 1.11:** *Further elaborate a vision ensuring the physical safety, the necessary level of preservation of the attributes of the OUV of the property and the quality of experience of visitors, which can guide the Visitor Management Strategy (see below section)* **PRIORITY: HIGH**

### Response

Deriving from the vision statement for the World Heritage Site of Rangiri Dambulla Cave Temple mentioned in the Revised Plan of Management of 2019 (p. 8) that outlines the need to “... *maintaining the appropriate balance between pilgrimage and tourism where the tourist could experience the site without causing disruptive impact on the pilgrim who is engaged in spiritual activities.*”, a vision for the Visitor Management Strategy was developed.

The Vision for the Visitor Management Strategy, which is based on the principle of preserving the attributes of the site that holds the OUV of the property to provide the visitor with high quality experience while mitigating negative visitor impacts through proper guidance, education, and management. Based on this principle, the Management Committee envisions the following four broad interventions to achieve a sustainable tourist management program ensuring the satisfaction of the tourist and also the wellbeing of the community

- **Conservation:** Protect the site's physical fabric and the structures of the cave shrines, wall paintings, polychrome sculpture, other artifacts, and the surrounding environment against the negative impacts of visitor movement and visitor pressure.
- **Visitor Experience:** Enhance the visitor experience by providing informative interpretation and facilities.

- **Visitor Management:** Control visitor numbers during critical times (peak visitation periods) to mitigate the negative impact on the site through awareness-raising programs.
- **Revenue Generation:** Generate sustainable revenue for site maintenance and development of the property and for community welfare.

**RMM Recommendation 1.12:** *Based on the abovementioned vision and visitor data on the number and movement pattern, a combination of various visitor management strategies should be adopted by adapting to the living nature of the property rather than focussing on controlling the visitor number alone. The most effective visitor management strategy may include establishing, promoting, and implementing codes of visitor conduct, hardening vulnerable areas, pricing, spatial and time distribution of visitors, and interpretation and public education programmes that aim at heightening visitors' understanding of the property's religious and heritage values and making them mindful of their actions. **PRIORITY: HIGH***

### Response

A detailed response to this recommendation is given as ANNEX 2 with the heading 'Visitor Management Plan for The Rangiri Dambulla Cave Temple'

**RMM Recommendation 1.13:** *Develop a training programme and enforce mandatory training for all guides and personnel of the property who oversee visitors to inform visitors of the codes of conduct to be observed during the visits. **PRIORITY: HIGH***

### Response

The Postgraduate Institute of Archaeology (PGIAR), which is affiliated to the University of Kelaniya, has agreed to the DoA and the CCF to design and offer a three-month training program leading to a Diploma in Tour Guiding including knowledge of the visitor management plan for the property. Once the necessary approvals from the university authoritative bodies are obtained, a process that may not take longer than two months, the PGIAR will recruit the first batch of aspiring tour guides for the diploma program, hopefully by February 2025. In the meantime, the DoA will draft necessary laws or regulations to make the PGIAR Diploma in Tour Guiding mandatory for all tour guides serving visitors at the Dambulla property.

Accordingly, the DoA and the CCF will introduce a licencing system to ensure that only the diploma holders of that program to serve at Dambulla. Arrangements will be made to monitor the conduct and the quality of service of those licenced tour guides. For this purpose, random opinion surveys will be conducted among the tourists who have obtained the guides' services about the service quality of the guides.

The CCF will encourage the already serving guides to follow the PGIAR diploma program and obtain the licence, so that they will not lose their present jobs and livelihoods once the licencing system begins to operate.

**Recommendations 1.14 and 1.15 are addressed together as follows due to the overlapping nature of the two issues.**

**RMM Recommendation 1.14:** *Establish legally enforceable property boundaries, ensuring all attributes contributing to the OUV of the property are included and ensure the highest level of protection. The boundary delineation should be based on careful consideration of both cultural (tangible and intangible) and natural attributes and historical layers of human interactions with the place over two millennia. **PRIORITY: HIGH***

**RMM Recommendation 1.15:** *Establish legally enforceable buffer zone boundaries for the property. The buffer zone area delineation should be based on the principle of offering maximum and long-term protection to the OUV attributes from current and potential threats arising from development activities within and around the property as well as from other factors identified through systematic risk assessment. **PRIORITY: HIGH***

#### **Response to 1.14 and 1.15 together.**

Following a joint meeting of the DoA, the CCF, and the Urban Development Authority (UDA), a Working Committee on the Demarcation of Property and Buffer Zone Boundaries was formed. The Committee will study the current issues regarding the boundaries that pose threats to the protection of the property and its OUV. This process will require consultations with a number of central government and local government agencies and may take about 1-2 years to complete. The Committee will pay special attention to aspects of cultural and natural heritage and potential threats arising from the development activities around the property.

**RMM Recommendation 1.16:** *Include in the Management Plan a mission statement of the Management Committee with a clear definition of roles and interconnections between religious and secular authorities involved in the property's preservation. Urgent measures should be taken to resolve differences between the management authorities by implementing an effective dialogue mechanism on the decision-making and sharing of responsibilities through a mediator if necessary. **PRIORITY: HIGH***

#### **Response**

The long-term vision and aims of the Management Committee has been only outlined in one page (Ch. 4) in the current Management Plan, but it lacks a detailed mission statement on how the Management Committee is going to accomplish its said vision. This omission of a clear

mission statement defining the roles and interconnections between religious and secular authorities is admitted. The DoA and the CCF have already prepared a draft mission statement that needs further honing during the forthcoming meeting of the Management Committee that will take place on the first quarter of 2025.

The differences between the religious and secular authorities involved in the property's preservation prevailed at the time of writing the current Management Plan and for some time thereafter has now been remarkably disappeared. The change in the situation is already shown in the improved dialogue between various parties within the Management Committee, signalling optimism in the functioning of the Management Committee.

**RMM Recommendation 1.17:** *By means of a sub-decree or regulation and explicit mention to the Antiquities Ordinance, specify the obligation of cooperation of all stakeholders, religious and secular, for the preservation of the World Heritage properties (inscribed and buffer zones) and other connected and relevant ancient properties; **PRIORITY: MEDIUM***

#### Response

A detailed response to this recommendation outlining the obligation of cooperation of all stakeholders, religious and secular is given as **Annex 3**.

**RMM Recommendation 1.18:** *Incorporate a specific mention of the World Heritage properties in Sri Lanka in UDA policies and regulations clarify to ensure the UDA plans recognizes the necessity to protect the OUV of the properties from future development; **PRIORITY: MEDIUM***

#### Response

A dialogue between the heritage institutions and the UDA has already been there for some time and attempts to obtain the support of the UDA have been positive. The DoA is planning to sign an MoU with the UDA to obtain the latter's commitment to recognize the necessity to protect the OUV of all World Heritage Properties in the country.

**RMM Recommendation 1.19:** *Evaluate the current human resources and identify the gaps to fill in light of the most pressing needs for the preservation of the property regularly; **PRIORITY: HIGH***

#### Response

Human resource requirements against the most pressing needs for the preservation of the site were re-evaluated to identify the gaps prevailing in the present management body. It was decided to, either re-designate existing officials, or to create three new carders to perform the

below-mentioned roles that will improve the quality of preservation management and thus bridge the gaps in the site management system.

**One Site Officer.** The Site Officer will be a fulltime official resident at the site who is available and accessible. The officer's duty will be to monitor the following.

- a) Any changes in the deterioration patterns and intensity of decay, in consultation with the conservators.
- b) Ensuring that the rotation of the conservation teams in the five caves are coordinated as per the work needs and duty briefs and the procedures approved by the CCF and the DoA
- c) Studying the visitor movement and behaviour inside the caves, and synthesising the information gathered and forwarding such information to the relevant officials;
- d) Intervening with unforeseen events caused by visitors, nature, and other elements and preparing reports on them for the relevant officials;
- e) Routine checking of scientific equipment installed inside the caves;
- f) Checking the scientific equipment installed on their safety;
- g) Recording the readings of the scientific equipment and, any other duties or responsibilities as may be assigned by the relevant authority.

**Two Site Caretakers:** The two Site Caretakers will be assigned the following duties.

- a) Monitor the visitor behaviour, and report the same to Site Officer.
- b) Monitor the CCTV system installed in the caves and alerting the Site Officer when necessary.

**RMM Recommendation 1.20:** *Assign dedicated personnel to seek and coordinate international cooperation in response to the most pressing needs in conservation and researching, and drafting applications and proposals; PRIORITY: **WHENEVER NECESSARY***

## Response

The DoA and the CCF admits the pressing need of the services of dedicated personnel to coordinate international cooperation in the field of heritage preservation. The two bodies are considering the possibilities of outsourcing one or more experts who have proven experience in the fields of conservation, research, and drafting grant applications and project proposals connected with programs of international cooperation.

**RMM Recommendation 1.21:** *Integrate policies on climate change responses and harmony between heritage preservation and development into the Management Plan. PRIORITY: **HIGH***

## Response

As stated above, the DoA and the CCF have planned to revise the current Management Plan to be in effect from the year 2027. This allows enough time to study in-depth the effects of climate change on heritage preservation and develop policies to mitigate the ill-effects of such changes on the property. Once the policies are developed, they will surely be integrated into the new Revised Management Plan.

**WHC Decision 2.** *Further restructure and revise the Management Plan for the property, in collaboration with the key management stakeholders, in line with the recommendations of the 2023 mission, and in particular to ensure that all attributes conveying the Outstanding Universal Value (OUV) are identified and protected, and the root causes of their deterioration are identified and acted on.*

## Response

As stated above in response to the Mission Recommendations 1.8, 1.10, and 1.21, the DoA and the CCF are making arrangements to revise the current Management Plan scheduled to commence in mid- or late-2025. It is hoped to revise and restructure the Management Plan for the property in line with the 2023 Mission Report. In the process, measures are going to be taken to ensure that “all attributes conveying the Outstanding Universal Value (OUV) are identified and protected, and the root causes of their deterioration are identified and acted on” as the WHC has advised.

**WHC Decision 3.** *Facilitate an improved and effective relationship between the Department of Archaeology and the Temple Authority and common commitment to conservation of the OUV of the property, to encourage dialogue between the key stakeholders in the management of the property, and to develop a mutually acceptable and clearly outlined decision-making process.*

## Response

As stated above under the Mission Recommendations 1.16 and 1.21, the working relationships between those parties have been remarkably improved positively. As a result, in the decision-making process, dialogue between the stakeholders has improved, thus paving way for an improved and effective decision-making process.

**WHC Decision 4.** *Adopt systematic and coherent documentation methods to enable the establishment of baseline data leading to the regular monitoring and understanding of changes and effectiveness of adopted conservation actions.*



## Response

The issue linked to this decision is similar to the issue raised by the Mission and stated under the recommendation 1.6 above. That recommendation, together with 1.7 have already been responded to above.

**WHC Decision 5.** *In consultation with the key management stakeholders, to establish a visitor management framework including appropriate codes of conduct for visitors, pilgrims and tourists to regulate the flow and sensitive to the needs of both pilgrims and the conservation of all attributes of OUV; such framework and codes of conduct to be based on the information collected through a visitor monitoring programme which clarifies the current visitation pattern and impacts, and submitted to the World Heritage Centre for review by the Advisory Bodies.*

## Response

The issue of the absence of a visitor management strategy has been adequately addressed under the Mission Recommendations 1.1 and 1.12 above and in Annex 2.

**WHC Decision 6.** *Also requests the State Party to clearly define the boundaries of both the property and the buffer zone, define the purpose of the buffer zone, and submit, when completed, for review by the World Heritage Centre and the Advisory Bodies.*

## Response

The issue linked to this decision is as same as the Mission Recommendations 1.14 and 1.15 and the response to the two recommendations has been given together.

**WHC Decision 7.** *Advise the Committee on the reported development of the proposed Central Expressway Project, Kadawatha to Dambulla, and its relationship to the property and the buffer zone.*

## Response

The Rajarata University of Sri Lanka that conducted the Archaeology Impact Assessment survey on the proposed Central Expressway Project, from Kadawatha to Dambulla has concluded that there has no adverse impact on the property or on the buffer zone.

## **ANNEX 1. Management Issues Categorized in line with the Specific Attributes of the OUV of the Property, and Restructuring the Management Plan Accordingly: Detailed Response to the Mission Recommendation 1.8**

The Revised Management Plan of 2018 has identified 37 management issues categorized under 10 Key Components of the Conservation and Management Framework. Some of the Key Components include aspects that are linked with the specific attributes that hold the Outstanding Universal Value of the property, while the others include the aspects of management in general aimed at the well-being of the property. It is, however, possible to categorize the issues linking them with the specific attributes of the Outstanding Universal Value of the property as described below.

The OUV of the property based on Criteria I and VI is expressed as follows

**Criterion (i).** *Representing a masterpiece of human creative genius*

*The monastic ensemble of Dambulla is an outstanding example of the religious art and expression of Sri Lanka and South and Southeast Asia. The cave shrine, their painted surfaces, and statuary are unique in scale and degree of preservation. The monastery includes significant masterpieces of 18th-century Sri Lankan art of the Kandyan school.*

**Criterion (vi).** *Directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.*

*Dambulla is an important shrine of the Buddhist religion in Sri Lanka, remarkable for its association with the long-standing and wide-spread tradition of living Buddhist ritual practices and pilgrimage for more than two millennia.*

Deriving from the two OUV statements mentioned above, the aspects of attributes that convey the OUV is categorized under the seven types in par with the UNESCO Resource Manual 'Preparing World Heritage Nominations' as follows.

<b>Attribute Types</b>		<b>Aspects of Attributes of the Property</b>
1	Form and design	<ul style="list-style-type: none"> <li>▪ Monastic ensemble as a whole.</li> <li>▪ Spatial design within the cave shrines.</li> </ul>
2	Materials and substance	<ul style="list-style-type: none"> <li>▪ Walls built with rubble and mud.</li> <li>▪ Wall surfaces plastered with clay and painted in the 18<sup>th</sup> century wall painting style.</li> <li>▪ Images of Buddha and deities made of stone or wood and plastered and painted.</li> </ul>
3	Use and function	<ul style="list-style-type: none"> <li>▪ Performance of Buddhist rituals including worshipping and meditation.</li> </ul>
4	Traditions, techniques and management systems	<ul style="list-style-type: none"> <li>▪ Managed by temple authorities according to traditional practices of governance.</li> </ul>

5	Location and setting	<ul style="list-style-type: none"> <li>Located near the intersection of several well-known pilgrimage routes and accessed through traditional pilgrim pathways.</li> </ul>
6	Language, and other forms of intangible heritage	<ul style="list-style-type: none"> <li>Beliefs associated with divine interventions during the time of construction, and with the dripping of a water drop from the rock ceiling.</li> </ul>
7	Spirit and feeling	<ul style="list-style-type: none"> <li>Spiritual and awe-inspiring ambience.</li> </ul>

### **Categorizing the management issues in-line with the attributes**

As mentioned above, the 37 management issues identified in the Revised Management Plan of 2018 can be divided as those linked with the specific attributes that hold the Outstanding Universal Value of the property, and those aimed at the well-being of the property. The one's that are linked with specific attributes are given below.

	<b>Attributes</b>	<b>Management Issues as Identified in the Revised Management Plan of 2018, preceded by the same Issue Number</b>
1	Monastic ensemble as a whole, Spatial design within the cave shrines,	<b>Issue 7:</b> Possible delay or abandonment of the proposed 3-D documentation project using Laser and other scanning methods due to suspicions of its alleged harmful effects on paintings and sculpture.
2	Decorated walls of rubble and mud, Wall and ceiling surfaces plastered with clay and painted in the 18th century wall painting style. Images of Buddha and deities made of stone or wood and plastered and painted	<p><b>Issue 4:</b> Slowness in the restoration or repair of broken parts of the Buddha images.</p> <p><b>Issue 5:</b> Inadequacy of data on environment, insect repellence, and microbial activity, generated by basic research to develop appropriate treatment methods.</p> <p><b>Issue 6:</b> Inadequacy of current knowledge on the original materials and application methods of wall paintings and polychrome sculpture and the deterioration products restraining the making of decisions on compatible conservation treatment materials and methods.</p> <p><b>Issue 8:</b> Absence of documentation of protective coatings of previous interventions that restrains the conservator's ability to identify the deterioration problems.</p> <p><b>Issue 9:</b> Disregarding the recommendation of Ippolito Massari or slowness in finding other alternative solutions to remove the percolating water from Cave Shrines 3 and 4.</p> <p>[This situation has changed now. Prof. Claudio Margottini who is UNESCO Chair on Prevention and Sustainable Management of Geo-Hydrological Hazards at the Florence</p>

		<p>University carried out a preliminary field investigation from 17 to 22 October 2023 and has submitted his report].</p> <p><b>Issue 10:</b> Delay in making administrative and financial arrangements to implement the recommendations of the ICCROM Consultant on a long-term remedial conservation treatment program.</p> <p><b>Issue 11:</b> Delay in finding alternatives to the suggestion of the ICCROM Consultant on using Laser cleaning technology to clean wall paintings.</p> <p><b>Issue 12:</b> Slowness in finding solutions to the issue of tile decay.</p> <p><b>Issue 13:</b> Absence of a periodic monitoring program.</p> <p><b>Issue 14:</b> Lack of focus on conserving and presenting all attributes that contribute to the OUV.</p> <p><b>Issue 15:</b> Absence of a program to revitalize the traditional knowledge and skills in the making of wall paintings and polychrome sculpture.</p> <p><b>Issue 16:</b> Lack of skills, personal and an overall maintenance plan that includes all areas of the property's functions.</p>
3	Performance of Buddhist rituals including worshipping and meditation	<p><b>Issue 17:</b> Absence of a research agenda on the intangible heritage aspects of the Property that focuses on the OUV.</p> <p><b>Issue 18:</b> Compromising pilgrims' needs in favor of conservation-management considerations.</p> <p><b>Issue 19:</b> Absence of data on visitor numbers or visitor-impacted damages to OUV prevents making informed decisions on restricting visitor numbers as a part of a larger Tourism Management Strategy.</p> <p><b>Issue 20:</b> Absence of a Tourism Management Policy and Strategy restrains facilitating tourists' needs.</p> <p><b>Issue 21:</b> Absence of data on the needs and satisfaction of tourists curtails the development of a proper Tourism Management Policy and Strategy.</p> <p><b>Issue 22:</b> Disrespectful behaviour of certain tourists affecting the sanctity of the place.</p> <p><b>Issue 23:</b> Photography inside cave shrines with or without flash disturbs the ritual conduct of pilgrims, free movement of all visitors, and appreciation of art, thus restraining the understanding of the OUV.</p>
4	Managed by temple authorities according to traditional	<p><b>Issue 2:</b> Absence of an official quarter for the MC with 'temporary' accommodation and office spaces for the Chairperson of the Lead Organization in close proximity to the WHP</p>

	practices of governance	
5	Located near the intersection of several well-known pilgrimage routes and accessed through traditional pilgrim pathways	<p><b>Issue 25:</b> Lack of means of orientation using printed or electronic information restrains the ability of the visitor to fully understand the attributes and OUV of the site.</p> <p><b>Issue 26:</b> Tour guide behavior, especially talking in loud voice, destroys the sanctity of the place, and interrupts other visitors enjoying the Attributes and the OUV of the Property.</p> <p><b>Issue 27:</b> Delay in the administrative processes to implement a new lighting system for the interior that is compatible with the religious character and the historic nature of the site.</p> <p><b>Issue 28:</b> Abandoning the historical pathway deprives the visitor learning better about the OUV of the Property.</p> <p><b>Issue 29:</b> Lack of lighting along the pathways.</p> <p><b>Issue 30:</b> Lack of awareness programs to educate the visitor regarding dress-code requirements and opening hours.</p> <p><b>Issue 31:</b> Fencing-off of certain areas of cave shrines prevents the visitor from seeing the examples of paintings of an earlier phase and those depicting Sri Lanka's history that are on the ceiling of the rear of the cave, thus restraining holistic experience of the OUV.</p>
6	Beliefs associated with divine interventions during the time of construction, and with the dripping of the water drop from the rock ceiling	<p><b>Issue 24:</b> Inadequacy of materials and means to interpret the OUV of the Property for the visitor.</p>
7	Spiritual and awe-inspiring ambience	No issue is linked to this attribute.

### Issues Linked to Aspects of Management in General Aimed at the Well-being of the Property

- Issue 1: Slowness in developing mutual trust, respect, and working relationships among the members of the Management Committee (MC)
- Issue 3: Prevalence of professional disagreements over conservation treatment methods between conservators of DoA & CCF.

- Issue 32: Lack of scientific knowledge on the harmful effects of blasting and quarrying of rocks that are outside of the buffer zone, but are geologically connected with the Dambulla rock from underground.
- Issue 33: Absence of a technologically advanced surveillance systems installed to protect the Property from theft or acts of vandalism.
- Issue 34: Absence of adequate fire hazard prevention plans and fire hazard preparedness plans in place to protect the Attributes and OUV of the property.
- Issue 35: Absence of a Natural Disaster Preparedness Plan.
- Issue 36: Absence of a proper security screening system against terrorist attacks.
- Issue 37: Absence of research to understand the community and stakeholder issues.

It is planned to integrate the management issues linked to attributes as above into the Revised Management Plan that will come into effect in 2027.

## **Annex 2. Visitor Management Plan for The Rangiri Dambulla Cave Temple: Detailed Response to the Mission Recommendation 1.12**

### **1. Introduction**

The present Visitor Management Plan aims to ensure the preservation of all the attributes that uphold the OUV of the property while providing a positive visitor experience to the visitor leading to a sustainable visitor management strategy.

### **2. Objectives**

- **Conservation:** Protect the site's physical fabric and the structures of the cave shrines, wall paintings, polychrome sculpture, other artifacts, and the surrounding environment against the negative impacts of visitor movement and visitor pressure.
- **Visitor Experience:** Enhance the visitor experience by providing informative interpretation and facilities.
- **Visitor Management:** Control visitor numbers during critical times (peak visitation periods) to mitigate the negative impact on the site through awareness-raising programs.
- **Revenue Generation:** Generate sustainable revenue for site maintenance and development of the property and for community welfare.

### **3. Visitor Management Strategies**

- **Visitor Capacity Limits:**
  1. Implement a system to monitor and control visitor numbers, especially during peak seasons in cave number one which is more vulnerable to the deterioration caused by the physical pressures inserted by the overcrowding.
  2. Announcements can be made to inform the visitor the maximum amount of time that a visitor may spent inside cave number one.
  3. Consider the introduction of a timed entry system or online ticketing methods to regulate flow.
- **Guided Tours:**
  1. Offer guided tours conducted by knowledgeable guides to provide historical and cultural insights.
  2. Individual visitors who are not accompanied by a guide should be informed of on the visitor issues of the caves.
  3. Encourage visitors to use guided tours to minimize impact on the site.
- **Interpretation and Signage:**
  1. Establish awareness about the carrying capacity and the wear and tare of the site.
  2. Provide information about the times of heavy visitor flow specially in cave number one.
  3. Install clear and informative signage throughout the site to guide visitors and provide context thereof.



4. Develop interpretive materials, such as brochures and audio guides, to enhance the visitor experience.

- **Visitor Code of Conduct:**

1. Establish a code of conduct to guide visitor behavior, including rules on wear and tear, photography, noise levels, vandalism and respect for the sacred site.
2. Display prominent signage to remind visitors of the code of conduct.

- **Security and Surveillance:**

1. Implement security measures to protect the site from vandalism, theft, and other threats. Specially in cave number one where the carrying capacity is limited.
2. Use CCTV cameras to monitor visitor behavior and identify potential issues.

- **Waste Management:**

1. Provide adequate waste disposal facilities and encourage visitors to dispose of waste responsibly.
2. Making awareness on waste disposal without throwing away from the Rock summit
3. Implement recycling programs to minimize environmental impact.

- **Accessibility:**

1. Improve accessibility for visitors with disabilities, including ramps, handrails, and accessible to caves.
2. Provide wheelchair-friendly paths and accessible viewing areas.

- **Monitoring and Evaluation:**

1. Regularly monitor visitor numbers, behavior, and satisfaction levels.
2. Monitor the level of the impact on heritage
3. Evaluate regularly the effectiveness of visitor management strategies and make necessary adjustments.

#### **4. Staff Training**

- Provide training to staff on visitor management techniques, cultural sensitivity, and emergency procedures. The staff should be representatives of the temple, the CCF, the DoA and from religious practicing group.
- Equip this staff with the knowledge and skills to handle visitor inquiries, resolve conflicts, and enforce the code of conduct.

#### **5. Partnerships and Collaboration**

- Collaborate with religious communities, temple authorities, local communities, government agencies, and other stakeholders to ensure effective visitor management.
- Seek partnerships with tour operators to promote responsible tourism practices.

By implementing these strategies, the Rangiri Dambulla Cave Temple can continue to be a cherished heritage site for generations to come.

The site's unique characteristics and local regulations or the regulations enforced by the temple authorities should be respected in planning for visitor management. Therefore, it is essential to consult with Rangiri Dambulla temple authorities, heritage experts and local authorities to implement this visitor management plan more comprehensively and effectively.

**Annex 3. Obligation of cooperation of all stakeholders, religious and secular, for the preservation of the World Heritage properties (inscribed and buffer zones) and other connected and relevant ancient properties by means of a sub-decree or regulation and explicit mention to the Antiquities Ordinance: Detailed Response to the Mission Recommendation 1.17**

The 1940 Antiquities Ordinance (No. 9 of 1940) and its 1988 amendment (Act No. 24 of 1988) establish the legal framework for the protection, management, and preservation of Sri Lanka's archaeological heritage. Key aspects related to stakeholder obligations, including both religious and secular entities, are outlined below:

**Obligations**

In Sri Lanka, the Antiquities Ordinance No. 9 of 1940 and its amendments emphasize the collective responsibility of various stakeholders, both religious and secular, in preserving heritage sites. Stakeholders are defined broadly and include not just state institutions but also private individuals, religious bodies, and community organizations. The obligations of these groups are detailed in various sections of the ordinance.

- **General Duty:** All stakeholders, including religious institutions and private owners, are obligated to report discoveries of antiquities to the Department of Archaeology. Unauthorized excavation or destruction of antiquities is prohibited, and stakeholders must obtain licenses for restoration or construction work near protected sites (Sections 6–11).
- **Protection of Heritage Zones:** Section 43 restricts construction and other potentially damaging activities near declared monuments, which can apply to both inscribed World Heritage sites and buffer zones. Permission must be obtained from the Director-General of Archaeology before undertaking any activities within these areas. 43 (A) mentioned an “Impact assessment (AIA)” should be conducted for proposed development projects near heritage Zones.
- **Regulation of Religious Sites:** Even if an archaeological site is under religious ownership, its management must comply with national preservation laws. The ordinance specifies that ownership does not exempt stakeholders from adhering to regulations, ensuring the integrity of heritage sites. Consent is required for archaeological excavation, and they are subject to regulations regarding conservation and maintenance (Sections 8 and 2).
- **Community Responsibility:** Section 2 highlights agreements between authorities and local communities (including religious groups) to manage and protect heritage sites. These agreements underscore shared responsibility for the conservation of ancient properties
- **Buffer Zone Protection:** Within a 400-meter radius around declared monuments, activities such as construction, quarrying, and mining may be restricted to safeguard the integrity of archaeological sites

The Archaeological Department has declared several sites as archaeological reserves and protected monuments. According to the Antiquities Ordinance No: 1940, (related to section 23)

*400 yards (370m) are to be kept from the archaeological monument as a buffer zone. All development activities such as construction, mining, and quarrying within these buffer areas are restricted.*

Archaeological reserves and protected monuments have been listed by the Archaeological Department.

### **Ownership**

**Second Owner Clause:** The ordinance clarifies that even if religious institutions or private entities hold land or monuments, the state retains overarching custodianship of antiquities and archaeological sites. This ensures that heritage conservation is a national priority, beyond individual ownership

- Private and Religious Ownership: Private or religious owners of lands declared as archaeological reserves retain ownership but must adhere to state guidelines. Compensation may be provided if land is acquired for preservation purposes, and any restoration must have formal approval from the Department of Archaeology (Sections 2, 20 & 21).
- Archaeological Reserves: Declared reserves (state or private) fall under the jurisdiction of the Department of Archaeology, which can enforce eviction if laws are violated (Sections 33–35).

### **Specific Articles:**

- Section 2: Explicitly states that any work on declared monuments requires departmental approval, reinforcing stakeholder responsibility.
- Sections 6 & 7: Allow the state to declare private or state-owned structures or trees over 100 years old as protected monuments.

These legal provisions emphasize cooperative management and shared responsibility, involving both secular and religious stakeholders in preserving Sri Lanka's rich heritage.

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*End of the Report with 03 Annexes*