

Golden Temple of Dambulla (Sri Lanka) (C 561)

State of Conservation Report



DEPARTMENT OF ARCHAEOLOGY

CENTRAL CULTURAL FUND

**MINISTRY OF HOUSING, CONSTRUCTION AND CULTURAL
AFFAIRS**

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

JANUARY 2019

CONTENTS

	Page No.
1. Executive Summary of the Report	01
2. Response to the Decision of the World Heritage Committee	08

Chapter One

Execute Summary of the Report

The Golden Rock Temple of Dambulla situate in the Matale District of Sri Lanka bearing GPS Coordinates of N 7° 51' 24'' and E 80° 38' 57'' has been inscribed as the 561st cultural site in the World Heritage list bearing an exceptional universal value under **criteria (i)** as a ***“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 art in the Sri Lankan school of Kandy”*** and under **Criterion (vi)** as ***“an important shrine in 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”***.

The rock of Dambulla is the center of a Buddhist cave-temple complex established in the 3rd century B.C. and occupied continuously to this day. The site has been in continuous use for over 23 centuries, when it was occupied by a Buddhist monastic establishment, following the arrival of Buddhism on the island. Remains of 80 rock shelter residences established at that time on the site have been identified, most likely in the first century B.C. The uppermost group of shelters on Dambulla's South face have been transformed into shrines. These transformations continued and were intensified between the 5th and 13th centuries: cave-temples were extended into the sheltering rock, and brick walls constructed to screen the caves. By the end of the 12th century, with the introduction by King Nissanka Malla of sculpture to the caves on the upper terrace, echoing the rock carving that had preceded it, the caves assumed their present general forms and layout. The next major phase of development took place in the 18th century when following a long-standing tradition, the upper terrace was restored and refurbished. All of the painted surfaces within the caves were painted or over painted in a style characteristic of the Kandy school of the late 18th century. At that time, the modest Buddhist figures in the caves were repainted, maintaining original details and iconography; the fronting screen walls were rebuilt and roofed to form an outer veranda. Throughout the 19th century, following the loss of royal patronage in 1815, periodic repainting of sculptures and deteriorating surfaces continued. In 1915, thanks to the efforts of a local donor, caves were entirely repainted. And in the 1930's, the

veranda was rebuilt incorporating a mixture of European and Asian detailing, and the complex's entrance porch was reconstructed in a conjectural 18th century style.

Dambulla is an extraordinary and unique complex. It is the second largest cave-temple complex in South and Southeastern Asia, after Ajanta in India, and its 18th century rock paintings are among the best preserved in the entire region. The extent of the painted surfaces in the five caves exceeds 21 ,000 square feet; 157 statues of varied sizes are also present. A Sri Lankan expression of a Southern Asia temple concept, Dambulla is without doubt the largest and best preserved in the country. Uniquely among comparable sites in India such as Ajanta, Elephanta, Ellore and Karla (which are natural caves), it is largely an excavated complex – no comparable examples exist. One of the spaces, cave No. 2, is undoubtedly one of the single most dramatic and artistically important spaces in all of Asia.

As such it is the duty of the State Party to protect its integrity and Authenticity.

The adopted Retrospective Statement of the Outstanding Universal Value (RSOUV) of the property during the 42nd World Heritage Committee Meeting the **Integrity** of the property states as ***“The property includes all the elements and components related to different facets of creativity that are necessary to express the Outstanding Universal Value of the property, such as the polychrome statuary either moulded with stucco or clay or carved out of the living rock within the cave shrines, mural paintings, and interior layout. The physical fabric of these elements is in good condition and has been preserved to express this value. The property currently does not suffer from any adverse effects of development or other pressures.”***

The Department of Archaeology (DoA) together with the Central Cultural Fund (CCF) and with the close collaboration with the Temple Authorities has commenced remedial treatment of murals with a team of 20 trained and experienced murals conservators. Removal of dust and grime layers using a mechanical cleaning method is currently used. The reason for this is the high water sensitivity of Dambulla Paint layers towards water most solutions. It's currently decided not to use chemical cleaning methods on Dambulla Murals and such an intervention may be embarked upon after the intended material tests are carried out.

As a matter of urgency graphic documentation of the cave number four has been completed at present. The graphic documentation of cave number two has begun and been continued. The documentation of cave numbers one, three and five will be commenced as appropriate.

A five-year collaborative project (2018-2020) between the Department of Archaeology (DoA), Central Cultural Fund (CCF), the University of Kelaniya (UoK), and the University of Bamberg in Germany to document the 'Fresco Pocket' and the Mirror Wall at Sigiriya and the wall paintings and polychrome sculpture at Dambulla using 3-D laser and other technologies was launched in 2018. Considering the relatively complex nature of the interiors at Dambulla, the team decided to carry out a test scan at Dambulla in 2019 and local capacity building in instrument manipulation; scanning of Cave no. 03 and 04 at Dambulla in 2020; scanning Cave no. 02 or part of Cave no. 02 at Dambulla in 2021; and Completion of Cave No. 02, Cave 01, and 05 at Dambulla in 2022.

The polychrome statuary either moulded with stucco or clay or carved out of the living rock within the cave shrines are also being attended to with close monitoring of any potential effects and minor repairs are being carried out by trained conservators of the DoA.

The interior layout of all five caves are being maintained without any addition of obstructions. The interior environment of the cave No. 4 is closely monitored through data loggers maintained and monitored by the University of Peradeniya. An Electronic Potter Wasp Repellent also has been installed in the cave No. 4 as a pilot project and is being monitored by the University of Peradeniya. After the assessment of the results this would be extended to the other caves as well. All possible ways of Wasp entrances to the other caves have been physically prevented. The humidity of the other caves are being physically monitored by taking measurements at close intervals.

A comprehensive lighting system has been designed and in the process of implementation and will be completed in 2019. It has been revealed that there is no any bad effect on flash photography but as a religious place the pilgrims are disturbed by the flashes. Therefore steps has been taken to minimize the flash photography by imposing limitations for visitors.

Temple Authorities have provided a security service to the five caves and provide a security checks to prevent visitors from entering the property with any potentially harmful items. Stakeholders decided to request the Management Committee to consider making a request to the Sri Lanka Civil Security Force to provide security services to the five caves, to carry out security checks and limit the visitor entrance to the caves in peak seasons.

Several discussions have been made in the replacement of terracotta tiled floors of the five caves. But as the removal of the terracotta tiles in the floor would be a massive operation and there might be a potential harm to the paintings and well as statues due to the dust accumulation and vibration caused during the removal of concrete base of the tiles, it has been proposed to carry out an experiment of creation drilled holes in identified intervals allowing the absorption of moisture through the holes in the floor. This is to be carried out during the year 2019.

The adopted Retrospective Statement of the Outstanding Universal Value (RSOUV) of the property during the 42nd World Heritage Committee Meeting the **Authenticity** of the property states as ***“The overall form and design as well as the materials and substance of the mural paintings that cover the interior surfaces of the cave shrines and the rock-cut and moulded statuary within the caves have been retained. No interventions have been carried out to change the overall form and design of the interior spaces of the caves, or the location and positioning of sculptures and paintings in relation to their interior layouts. The interior spaces are still being used by pilgrims for ritual Buddhist practices, thus maintaining the original use and function as well as the spirit and feeling of their interior spaces.”***

The overall form and design as well as the materials and substance of the mural paintings that cover the interior surfaces of the cave shrines and the rock-cut and moulded statuary within the caves are retained up to now without any change. The traditional materials and substance are being used to carry out any repairs to the mural paintings and rock-cut and moulded statuary. This is being implemented after carrying out several studies to identify the original materials, substance and workmanship that have been used to create the mural paintings and rock-cut and moulded statuary. The interior spaces are still being used by pilgrims for ritual Buddhist practices without any obstructions and the daily offerings are being carried out by the Buddhist Monks,

thus maintaining the original use and function as well as the spirit and feeling of the interior spaces.

The adopted Retrospective Statement of the Outstanding Universal Value (RSOUV) of the property during the 42nd World Heritage Committee Meeting the **Protection and management requirements** of the property states as **“The property, which is under the ownership of the Asgiriya Chapter of Buddhist clergy, has been declared a Protected Monument under the legal protection of the Department of Archaeology of the Government of Sri Lanka, which administers the Antiquities Ordinance of 1940 (rev. 1998) at the national level. No interventions to the property are allowed without the permission of the Department of Archaeology. Conservation and monitoring of the paintings and polychrome objects are the responsibility of the Department of Archaeology. The monks conduct the daily rituals and are responsible for the general maintenance, protection, and upkeep of the property. Part of the gate collection from foreign tourists visiting the property is used by the monks for these purposes. The area extending up to the edge of entire rock outcrop has been designated a buffer zone under the purview of the Department of Archaeology. The religious character of the property is further safeguarded by the declaration of the whole area around the rock outcrop as a sacred area by the National Physical Planning Department.**

The main challenges ahead are conserving the paintings, dealing with the carrying capacity in view of increased pilgrimage mainly during religious festivities, and achieving better results in conservation and regular maintenance. Sustaining the Outstanding Universal Value of the property over time will require taking measures to enhance the management, conservation, and presentation of the property. These include preparing a heritage management framework, a master development plan, and a visitor management plan, and establishing a regular monitoring regime “.

The property is still owned by the Asgiriya Chapter of Buddhist clergy and Chief Incumbent Monk has been named by the Mahanayaka Thero of the Asgiriya Chapter and a Custodian Monk has been named by the Chief Priest from among the priests who has been appointed by the Commissioner General of the Department of Buddhist Affairs. The property is an Ancient Monument under the provision of the Antiquities Ordinance No. 9 of 1940 and also Declared as

a Protected Monument. As all interventions to the property are allowed only with the prior permission of the Department of Archaeology (DoA). Conservation and monitoring of the paintings and polychrome objects are the responsibility of the DoA and the current conservation works in the five caves are being carried out by the DoA and The Central Cultural Fund under the supervision of the DoA. All other monitoring programmes are also being carried out by various other institutions under the supervision of the DoA.

The monks conduct the daily rituals and the general maintenance, protection, and upkeep of the property. Part of the gate collection from foreign tourists visiting the property is used by the monks for these purposes.

The area extending up to the edge of entire rock outcrop has been designated a buffer zone (400 yards) Antiquities Ordinance No. 9 of 1940 and is under the purview of the Department of Archaeology. The religious character of the property is further safeguarded by the declaration of the whole area around the rock outcrop as a sacred area by the National Physical Planning Department. The development activities of the sacred area would be carried out by a committee in which the Temple Authorities, District Secretary of Mathale, Director General of Archaeology, Chairman of the Dambulla Municipal Council, Divisional Secretary of Dambulla and other Government Officials are members.

The main challenges identified in the RSOUV, ie:- conserving the paintings, dealing with the carrying capacity in view of increased pilgrimage mainly during religious festivities, and achieving better results in conservation and regular maintenance are being addressed and the measures already taken are explained under the integrity and authenticity section.

Updating the heritage management framework, development of a master plan and a visitor management plan, and establishing a regular monitoring regime which are identified as essentials for sustaining the Outstanding Universal Value of the property over time has also being addressed and the draft updated Management Plan is attached.

Chapter Two

Responses to the Decisions of the World Heritage Committee

State party wished to submit the following responses of the implementation of the recommendations stated in the Decision : 42 COM 7B.16 in respect to the Golden temple of Dambulla (Sri Lanka) (C 561).

4.1 Decision of the World Heritage Committee

“Encourages the State Party to implement the proposed Site Management Committee and related management structures, with clear lines of responsibilities, as a matter of urgency”

Response

In keeping with the above decision seven meetings have been held to discuss the matters connected to the establishment of the Site Management Committee. During the stakeholder meetings held on the 03. 01.2019 and 26.01 2018 and also in consultation with the expert committee meeting held on the 21.01 2019 chaired by the Director General of Archaeology following committee and the Management Committee of the World Heritage Site of Golden Temple of Dambulla has been formulated.

Dambulla World Heritage Management Committee

Chairperson: Chief Incumbent Monk

Members: Chief Registrar Monk of the Asgiriya Chapter

Custodian Monk of Dambulla Temple

Secretary, Lime Ministry responsible for Cultural Affairs

Director General, Department of Archaeology

Director General, Central Cultural Fund

Director General or Representative, Urban Development Authority

Director General or Representative, National Physical Planning Dept.

Government Agent or Representative, Matale District

Divisional Secretary, Dambulla

Assistant Commissioner of Buddhist Affairs, Matale District

Mayor, Dambulla Municipal Council

Secretary, Lay-Committee of the Temple (Dayaka Sabhawa)

Meetings of the Management Committee: Meetings of the Management Committee will be held with the Chief Incumbent Monk as Chair. Decisions taken at the meetings will come into effect only after such decisions are endorsed in writing by the Chief Incumbent Monk. In case if the Chief Incumbent Monk is not available to chair a meeting, the Chief Registrar Monk of the Asgiriya Chapter or the Custodian Monk of Dambulla Temple will Chair the meeting. Decisions made at meetings not chaired by the Chief Incumbent Monk will come into effect only after such decisions are endorsed in writing by the Chief Incumbent Monk.

Term of Office of the MC: The Committee will have to be re-established once in every three-years.

Meeting Frequency: Meetings of the Committee will be held once every two months.

Line of Reporting: The Committee Reports to the line-ministry of Cultural Affairs.

The lines of responsibilities have been clearly identified in the management plan and the committee has been given full responsibilities on the implantation of the management plan and the tourism stagey. It was decided that all matters connected with the Dambulla Temple would be carried out with the participation of the Buddhist clergy in-charge of the Dambulla Temple and progress of all conservation, development and research activities would be informed to the priests in every two weeks by the relevant authorities.

4.2 Decision of the World Heritage Committee

“Requests the State Party to implement fully the recommendations of the March 2015 ICOMOS Reactive Monitoring mission to the property, as appropriate”

Responses

In keeping with the above decision following progress have been made with regard to the recommendations of the March 2015 ICOMOS Reactive Monitoring mission to the property.

4.2.1 To continue with the research and identification of solutions for the problematic issues affecting the property, with the help of local and international experts in the relevant fields. Currently, the State Party needs to designate a stone and wall painting conservator. ICOMOS, ICCROM and the World Heritage Centre could assist the State Party in identifying appropriate international experts –

a) Two important projects for the documentation:-

i) The Manual Graphic Documentation Project Foreseen from 2018 to 2020

The progress of this work is on schedule. As a matter of urgency graphic documentation of the cave number four has been completed at present. The graphic documentation of cave number two has begun and been continued. The documentation of cave numbers one, three and five will be commenced as appropriate.

ii) The 3-D laser scanning mapping project to be implemented in 2018

A five-year collaborative project (2018-2020) between the Department of Archaeology (DoA), Central Cultural Fund (CCF), the University of Kelaniya (UoK), and the University of Bamberg in Germany to document the 'Fresco Pocket' and the Mirror Wall at Sigiriya and the wall paintings and polychrome sculpture at Dambulla using 3-D laser and other technologies was launched in 2018. Considering the relatively complex nature of the interiors at Dambulla, the team decided to schedule the project as follows;

- First Campaign: 2018 – scanning of paintings at Fresco Pocket and test scanning of the 'Mirror Wall' at Sigiriya, and local capacity building in instrument manipulation;
- Second Campaign: 2019 – scanning of 'Mirror Wall' at Sigiriya; and Test scanning at Dambulla and local capacity building in instrument manipulation;
- Third Campaign: 2020 – Cave no. 03 and 04 at Dambulla, and

- Fourth Campaign: 2021 – scanning of Cave no. 02 or part of Cave No. 02 at Dambulla, and
- Fifth Campaign: 2022 – Completion of scanning of cave 02, cave no. 01 and Cave no. 05

iii) Programme of research into original painting materials and techniques has been instigated :-

Identification of original painting materials and techniques has been already identified.

iv) A 10 to 12-year Programme of remedial treatment for paintings and polychrome structures has been proposed, research into original painting materials and techniques has been instigated:-

Remedial treatment of murals is being carried out by a joint team of DoA and CCF, consisting 20 trained and experienced murals conservators. Removal of dust and grime layers using a mechanical cleaning method is currently used. The reason for this is the high water sensitivity of Dambulla Paint layers towards water most solutions. It's currently decided not to use chemical cleaning methods on Dambulla Murals and such an intervention may be embarked upon after the intended material tests are carried out.

v) Collaborating with an international conservation organization :-
CCF and DOA work collaboration with ICCROM and ion its recommended experts.

b) Research projects that have been undertaken on the conservation issues –

i) A study by the Isotope Hydrology Section of the Atomic Energy Authority revealed the sources of water seeping into the cave shrines and the

comprehensive measures to be taken to address the issue will be integrated into the revised Management Plan :-

The investigations carried out by the Sri Lanka Atomic Energy Authority have revealed that water coming in to caves 1, and 3 are from the natural ponds on the rock. Since one of the streams coming through the fissures in the rock is coming to Cave 1, which is considered to have acquired ritualisticall values, as such it has been decided not to stop the coming of water in total, BUT to mitigate the water movement where it contributes to deterioration of. Research and monitoring needed for this intervention are being carried out by the conservators who are documenting the murals.

ii) A research laboratory is expected to be set and running within 2018 :-

The building has been completed and the required equipment will be put in place and staff will be recruited in 2019.

4.2.2 To revise and update the Management Plan based on a clearly defined governance and communication structure that sets out the interface between the State and Temple authorities, and which includes short-, mid- and long-term strategies for both Conservation and Visitor Management, as well as budget planning (except for the long-term aspect) -

Up dated Management Plan is attached.

4.2.3 To improve the management of the site, a site management committee should be created which includes representatives of the government, the Temple authorities and the local community, as well as experts. This committee should meet at least bimonthly, to discuss and decide on all matters related to the conservation and management of the World Heritage property of the Golden Temple of Dambulla. In the case of an emergency, the committee could meet spontaneously. The State Party should inform the World Heritage Centre on the establishment of this committee once in place -

Site Management Committee has been established. Details are given in paragraph 4.1.

- 4.2.4 To establish a tourism management strategy within the coming year, especially including the maximum number of persons allowed to enter the caves at once. The five caves are all different in size, and the control of visitor numbers allowed in each is crucial to managing the area -

Issues on tourist management have been already identified and the strategy is being prepared.

- 4.2.5 To introduce and enforce, as soon as possible, a policy prohibiting visitors from using flash photography inside the cave, as this is one of the main causes of the change in colour of the paintings -

It is revealed that there is no any bad effect on flash photography but as a religious place the pilgrims are disturbed by the flashes and therefore steps has been taken to minimize the flash photography by imposing limitations for visitors.

- 4.2.6 To set up security checks in order to prevent visitors from entering the property with any potentially harmful items –

Temple Authorities has provided security service to the five caves and provide security checks to prevent visitors from entering the property with any potentially harmful items. It has been decided to request from the Sri Lanka Civil Security Force to provide security services to the five caves to carry out security checks and limit the visitor entrance to the caves in peak seasons.

4.3 Decision of the World Heritage Committee

“Reiterates its previous request to the State Party to revise and update the Management Plan for the property, based on clearly-defined governance and communication structures, while incorporating traditional management systems, and defining the interface between the State and Temple authorities, the setting of short-, mid- and long-term strategies for both conservation and pilgrim/visitor management, and budget planning, as well as

incorporating the recently-prepared 'Statement of Conservation Strategy', and to provide the draft to the World Heritage Centre, for review by the Advisory Bodies "

Response

Draft updated Management Plan is attached.

4.4 Decision of the World Heritage Committee

"Also requests the State Party to facilitate the preparation of a comprehensive Tourism Management Strategy, which has strong regard to a balanced approach considering the role of the property as a pilgrim site, the vital needs for the conservation of Outstanding Universal Value and the needs of visitors, and submit the draft to the World Heritage Centre, for review by the Advisory Bodies"

Response

It has been decided to develop a pilgrim management system by the local experts considering the cultural and religious sensitivity of the temple. Issues on tourist management have been already identified and the strategy is being prepared and draft will be submitted during the year 2019.

4.5 Decision of the World Heritage Committee

"Reminds the State Party of its obligation to submit details of proposed works to the property which may affect its Outstanding Universal Value, including projects for wall painting and sculpture remedial treatment and laser cleaning, floor tile replacement, and hydro-geological projects, to the World Heritage Centre, for review by the Advisory Bodies, in line with the requirements of Paragraph 172 of the Operational Guidelines, before any irreversible decisions or physical interventions occur"

Responses

In keeping with the above decision following progress have been made up to now.

- a) Wall painting and sculpture remedial treatment and laser cleaning

Remedial treatment of murals are being carried out by a joint team of DoA and CCF, consisting 20 trained and experienced murals conservators. Removal of dust and grime layers using a mechanical cleaning method is currently used. The reason for this is the high water sensitivity of Dambulla Paint layers towards water most solutions. It's currently decided not to use chemical cleaning methods on Dambulla Murals and such an intervention may be embarked upon after the intended material tests are carried out.

Supporting the re-vitalization of traditional materials and practices in wall painting has been carried out for a long time in Dambulla and traditional binding and pigment materials are used in the conservation in addition to the engagement of traditional craftsmen.

Suggestion of the ICCROM Consultant to try the application of Laser cleaning technology to remove surface accretions on wall paintings and sculptures worth consideration. This suggestion has been made after learning the unsuitability of known chemical cleaning methods due to the high sensitivity of the original painting technology. However, his suggestion requires the removal of two or three samples of wall paintings in the size of 10 cm x 10 cm each and sending them to Italy to conduct preliminary tests on using Laser cleaning techniques. Although the suggestion to experiment with Laser cleaning methods to remove surface accretions is welcomed, stakeholders show reluctance to remove samples of wall paintings of the required size abroad, as this can become a controversial issue. Alternatives to this suggestion have not yet been considered.

b) Floor Tile Replacement

Several discussions have been made in the replacement of terracotta tiled floors of the five caves. But as the removal of the terracotta tiles in the floor would be a massive operation and there might be a potential harm to the paintings and well as statues due to the dust accumulation and vibration caused during the removal of concrete base of the tiles. It has been decided to carry-out further investigations and trial studies to decide on the best course of action to resolve the issue.

c) Hydro-Geological Projects

The investigations carried out by the SL Atomic Energy Authority have revealed that water coming in to caves 1, and 3 are from the natural ponds on the rock. Since one of the streams coming through the fissures in the rock is coming to Cave 1, which is considered to have acquired ritual values, as such it has been decided not to stop the coming of water in total, BUT to mitigate the water movement where it contributes to deterioration of. Research and monitoring needed for this intervention are being carried out by the conservators who are documenting the murals

d) Re-design the Internal Lighting Strategy

A comprehensive lighting system has been designed and is in the process of implementation.

e) An Experimental 'Automated Environmental Monitoring System' to Measure Visitor-Induced Environmental Change

The interior environment of the cave No. 4 is closely monitored through data loggers maintained and monitored by the University of Peradeniya. After the assessment of the results this would be extended to the other caves as well. The humidity of the other caves are being physically monitored by taking measurements in close intervals.

f) Research Studies of Wall Structures and Micro-Organic and Insect Impacts (Especially Potter Wasps)

Electronic Potter Wasp Repellent also has been installed in the cave No. 4 as a pilot project and is being monitored by the University of Peradeniya. After the assessment of the results this would be extended to the other caves as well. All possible ways of Wasp entrances to the other caves has been physically prevented.



Golden Temple of Dambulla

**Revised Plan of Management
Draft**

**Central Cultural Fund
January 2019**

Golden Temple of Dambulla

Revised Plan of Management (Draft)

2019 January

PREAMBLE

The Draft Revised Management Plan for the World Heritage Property of the Golden Temple of Dambulla of Sri Lanka is hereby submitted by the State Party in response to the Decision 40 COM 7B.46 adopted at the 40th Session of the World Heritage Committee held in Istanbul, 2016, and to the Decision 42 COM 7B.16 adopted at the 42nd Session of the World Heritage Committee held in Manama, 2018.

The present Draft Plan was prepared through a fully participatory process involving the widest possible cross-section of stakeholders. They included the legal owners of the property, relevant government officials, subject experts, traditional practitioners, and representatives of the community. The issues that had been identified by the ICOMOS Reactive Monitoring Mission of 2015, and the above mentioned decisions of the World Heritage Committee were discussed in detail by the stakeholders. Accordingly, a Management Committee and a management framework for implementation of its decisions were established, and an Action Plan to address the issues was adopted. The Department of Archaeology, in collaboration with the Central Cultural Fund and local universities and experts has already commenced work to implement the decisions of the Action Plan. Several conservation interventions with short-term, medium-term, and long-term time frames are already in place to uphold the Outstanding Universal Values of the Property.

The Draft Plan outlines the issues discussed and the plan of actions the Department of Archaeology has already implemented. By submitting the present draft management plan, the State Party informs the World Heritage Committee the progress it has made to this date in its efforts to protect the Attributes and uphold the Outstanding Universal Values of the Property. The State Party looks forward to the response of the World Heritage Committee to the Draft Plan, and to revise it as needed. Once the final Management Plan is compiled after incorporating the revisions, it will be submitted to the Cabinet of Ministers for approval, and in turn, will be submitted to the UNESCO.

Abbreviations

CCF : Central Cultural Fund

DoA : Department of Archaeology

DoBA : Department of Buddhist Affairs

DPS : Dambulla Pradeshiya Sabha

GSMB : Geological Survey and Mines Bureau

NPPD : National Physical Planning Department

OUV : Outstanding Universal Value

SLTDA : Sri Lanka Tourism Development Authority

TA : Temple Authority of Dambulla Cave Shrine

UDA : Urban Development Authority

WHS : World Heritage Site

Executive Summary

The Golden Temple of Dambulla, which has been an active Buddhist place of worship with recorded continuous use for longer than two thousand years is a masterpiece of human creative genius representing different facets of creativity and an outstanding example demonstrating the artistic skills of the humankind in transforming natural rock shelters into vast spaces of Buddhist ritual practices. The site portrays the art and craft of carving large-scale religious statuary out of the natural rock within the caves, of molding numerous medium to outsized polychrome sculpture and of decorating the extensive interior surfaces with mural paintings. It showcases an innovative approach to interior design utilizing sculptural art and mural paintings, and offers most dramatic and artistically unique interior religious spaces in all of Asia. The site is also tangibly associated with the longstanding tradition of living Buddhist ritual practices and pilgrimage.

Due to such outstanding universal values, the Golden Temple of Dambulla has been inscribed on to the World Heritage List in 1991. Prime objective of the Management Plan is to specify how the outstanding universal values of the Dambulla World Heritage Site should be preserved, through participatory mean. The purpose of this Plan is therefore to ensure the effective management of this World Heritage Site for present and future generations and to provide an agreed framework for long-term decision-making on the conservation and development of the site. Once endorsed by all stake holders and approved by the relevant authority, the Management Plan become the overarching strategic document for the World Heritage Site. Since the outstanding universal value of the property makes it important in global terms for all humanity, the outstanding universal value is the main focus of the Management Plan.

In order to sets out a framework for the management of the Dambulla World Heritage Site, following key issues are identified in relation to protection and sustainable use of the site:

Policy, Planning, and Management

- Issue 1. Slowness in developing mutual trust, respect, and working relationships among the members of the Management Committee
- Issue 2. 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.
- Issue 3. Prevalence of professional disagreements over conservation treatment methods between conservators of DoA & CCF over the methods of intervention.

Urgently needed Restorations/ Repairs

- Issue 4. Slowness in the restoration or repair of broken parts of the Buddha images

Conservation and Monitoring

- Issue 5. Inadequacy of data generated by basic research to develop appropriate treatment methods.
- Issue 6. Inadequacy of current knowledge on the original materials and application methods of wall paintings and polychrome sculpture; and the deterioration products restraining the development of compatible conservation treatment materials and methods
- Issue 7. Possible delay or cancellation of the proposed 3-D documentation project using Laser and other scanning methods due to suspicions of its harmful effects on paintings and sculpture.
- Issue 9. Disregarding the recommendation of Ippolito Massari or finding any other alternative to remove percolating water from Cave Shrines 3 and 4.
- Issue 10. Slowness in the implementation of the recommendations of the ICCROM Consultant on remedial conservation treatment.
- Issue 11. Delay in making an administrative and financial arrangements to commence the long-term remedial conservation treatment program.
- Issue 12. Delay in finding alternatives to the suggestion of the ICCROM Consultant on using Laser cleaning technology to clean wall paintings

- Issue 13. Slowness in finding solutions to the issue of tile decay.
- Issue 14. Absence of a monitoring program at present
- Issue 15. Lack of focus on conserving and presenting all attributes that contribute to the SOUV.
- Issue 16. Absence of a program to revitalize the traditional knowledge and skills in wall painting and polychrome sculpture.

Maintenance

- Issue 17. Lack of skills, personal and an overall maintenance plan that includes all areas of the property's functions.

Archaeological and Anthropological Research

- Issue 18. Absence of a research agenda on the intangible heritage aspects of the Property that focuses on the SOUVs.

Use of the Property

- Issue 19. Compromising pilgrims' needs in favor of conservation-management considerations
- Issue 20. Absence of data on visitor numbers or visitor-impacted damages to OUVs prevents making informed decisions on restricting visitor numbers as a part of a larger Tourism Management Strategy
- Issue 21. Absence of a Tourism Management Policy and Strategy restrains facilitating tourists' needs.
- Issue 22. Absence of data about tourists' needs and satisfaction curtails the development of a Tourism Management Policy and Strategy.
- Issue 23. Disrespectful behavior of certain tourists destroying the sanctity of the place.
- Issue 24. Flash photography disturbs the pilgrims' ritual acts and other visitors' art appreciation and free movement.

Interpretation and Presentation

- Issue 25. Inadequacy of materials and means to interpret the OUVs of the Property for visitors
- Issue 26. Lack of an orientation using printed or electronic information for the visitor restrains the ability to fully understand the attributes and OUVs of the site.
- Issue 27. Tour guide behavior, especially talking in loud voice, destroys the sanctity of the place, and interrupting other visitors enjoying Attributes and the OUVs of the Property.

Visitor Access and Facilities

- Issue 28: Abandoning an Important pathway, depriving the visitor to learn better about the OUVs of the Property.
- Issue 29: Lack of lighting along the pathways.
- Issue 30. Lack of awareness programs to educate the visitor regarding dress-code requirements and opening hours.
- Issue 31. 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 OUVs.

Risks to the Property

- Issue 32. Lack of scientific knowledge on the harmful effects of blasting and quarrying in rocks that are outside of the buffer zone, but are geologically connected with the Dambulla rock underground
- Issue 33. Inadequacy of technologically advanced surveillance systems installed to protect the Property from thefts or acts of vandalism.
- Issue 34. Absence of an adequate fire hazard prevention system in place
- Issue 35. Absence of a Fire Hazard Preparedness Plan
- Issue 36. Absence of a Natural Disaster Preparedness Plan
- Issue 37. Absence of a proper security screening system against terrorist activities

Community and Stakeholder Relations

- Issue 38. Absence of research to understand the community and stakeholder issues

The **Vision** for Dambulla World Heritage Site to be a model living religious site in Asia where it's OUV is safeguarded through effective preservation and continued use while maintaining the appropriate balance between pilgrimage and tourism where tourist could experience the site without causing disruptive impact on the pilgrims who will engage in spiritual activities.

The management objectives to deal with the above mentioned key issues and to support the vision are as follows:

a). Policy, planning, and management

Objective 1. To improve the mutual trust and respect among members of the Management Committee to improve working relationships to arrive at management decisions with consensus to safeguard the Attributes and OUVs of the Property.

Objective 2. To provide on-site office and temporary accommodation facilities for the Chief Incumbent Monk during official visits to provide his services seamlessly to ensure the protection of the Property, its attributes, and OUVs.

Objective3. To improve working relationships and communication between the conservators of the DoA and CCF to carryout conservation treatments in a professional manner to safeguard the OUVs.

b). Urgent Restorations/ Repairs

Objective 4. To restore the damaged Buddha images as early as possible to a state that they can be worshiped, and thus safeguard the OUVs.

c). Conservation and Monitoring

- Objective 5-a.** To continue with the past research programs for several more years until conclusive evidence are found to develop solutions to arrest the problems of water ingress, insect repellence, interior-environmental conditions, and micro-biological activity.
- Objective 5-b** To review the existing knowledge on the original materials and methods of the paintings and polychrome sculpture.
- Objective 5-c** To generate new knowledge of the original materials and techniques;
- Objective 5-d** To study the deterioration products.
- Objective 6.** To open a discussion on the presumed ill-effects of the 3-D documentation technologies that use Laser and other scanning methods for mapping the wall paintings and polychrome sculpture.
- Objective 7.** To map the areas of previous application of protective coatings that might affect the OUVs in the long-run.
- Objective 8.** To re-evaluate the Italian Hydrology Engineer Ippolito Massari's recommendation by a team of local experts.
- Objective 9.** To implement the recommendations of the ICCROM Consultant on the remedial conservation treatment program without further delay as it is the most central action to safeguard the OUVs.
- Objective 10.** To find an alternative solutions to ICCROM Consultant's suggestion.
- Objective 11.** To obtain expert opinion on the best solution as early as possible.
- Objective 12.** To implement a program to periodically monitor the performance of the remedial conservation treatments as this is directly connected with the safeguarding of the OUVs.
- Objective 13.** To Conserve and manage all attributes of the Property other than those of the Five Cave Shrines that contribute to the OUVs.
- Objective 14.** To equip the younger generation with knowledge and skills in wall painting and sculpture technologies through structured training programs.

d). Maintenance of all conserved attributes that support the OUVs

Objective 15. To have an overall maintenance plan, implementation mechanism, and a monitoring and reporting program to assure that the Attributes and OUVs are safeguarded on a long-term basis.

e). Launching an Archaeological and Anthropological Research Program

Objective 16. To help the visitor know the intangible heritage elements associated with the Property; and thereby, help them understand the OUVs better.

f). Use of the Property: User-induced Threats to the Attributes

Objective 17.a To have management policies that does not compromise the ritual needs of pilgrims.

Objective 17.b. To gather data systematically on visitor numbers, negative impacts of overcrowding on OUVs.

Objective 17.c. To know the opinions of pilgrims on the imposition of restrictions on maximum number of visitors inside a cave shrine at a time, and maximum duration a visitor can spend inside a cave shrine.

Objective 18. To gather data systematically through a visitor opinion survey and through expert consultations to develop a Tourism Management Policy and Strategy that will help visitors to have a holistic experience of the OUVs of the Property.

Objective 19. To mitigate incidents of tourist misbehaviour.

Objective 20. To develop a policy on the use of photography with or without using the flash for the benefit of pilgrims who are engaged in ritual activity, and for visitors who enjoy the OUVs of the Property.

g). Interpretation and Presentation

Objective 21. To develop new educational materials and means to interpret the OUVs of the Property for the visitor.

Objective 22. To develop a better information and signage system to help the visitor orient him/herself and understand the Attributes and OUVs better.

Objective 23-a. To mitigate tour guide misbehavior to help pilgrims' ritual activity, and other visitors' enjoying the OUVs of the property.

Objective 23-b. To produce other means of information-provision to the visitor to minimize the use of tour guides.

Objective 24. To have the new lighting system to be installed as scheduled.

h). Visitor Access and Facilities

Objective 25-a To carry-out necessary repairs to the two pathways.

Objective 25-b. To develop the original historical pilgrim-way as the third pathway, to help the visitors better understand the OUVs.

Objective 26. To improve the lighting system for the pathways that enhances the OUVs.

Objective 27. To educate the visitor on the suitable attire and on cave shrine opening hours.

Objective 28. To re-evaluate the interior visitor movement designed to allow the visitor to have a holistic experience of the OUVs.

i). Risks to the Property

Objective 29. To prevent the rock from vibrations caused by blasting of rocks situated away from the Property but are geologically connected to it underground to ensure that OUVs are protected from such occurring.

Objective 30. To prevent acts of vandalism and theft to protect the OUVs.

Objective 31-a. To prevent accidental fires occurring inside the cave shrines that might damage the OUVs.

Objective 31-b. To mitigate the risks of fire, if occurs.

Objective 32. To reduce damages to visitors as well as to OUVs caused by natural disasters.

Objective 33. To protect the Attributes, OUVs, and visitors from terrorist attacks.

j). Community and Stakeholder-Related Issues

Objective 34. To develop community and stakeholders participation; (a) to ensure sustainable protection, conservation, management, and presentation of the OUVs; and (b) to ensure that some part of the benefits are passed on to the community.

The vision and objectives set out will be achieved by means of several actions involving a variety of stakeholders and partners involved with the property. In order to have the formal consent and commitment at all levels and to have a partnership approach to long- term management of the property, endorsement of all the bodies and individuals responsible for the implementation and undertaking the activities of the Management Plan will be obtained.

The Temple Authority at Dambulla Cave Shrine will be the lead organization responsible for the implementation of the Management Plan in cooperation with it's on –site and off-site partners. They will appoint a Site Manager to be responsible for the implementation of the programs of the Management Plan.

In order to formulate detail programs and grant approval for the implementation process of the Management Plan and to advice the Site Management, a World Heritage Committee for Dambulla, chaired by the Abbot of the Dambulla Cave Shrines, will be established. The members of the committee will be the heads or their representatives of relevant Government departments, agencies and institutions. It will also review the overall direction of the Management Plan in response to the changing needs and priorities during its meetings. The Management Plan will be revised in every seven years.

Contents

PREAMBLE	02		
Abbreviations	03		
Executive Summary	04		
Table of Contents	13		
1.0 INTRODUCTION	14
2.0 DESCRIPTION OF THE WORLD HERITAGE SITE		19
3.0 KEY ISSUES FOR THE CONSERVATION AND MANAGEMENT OF THE PROPERTY			45
4.0 VISION AND AIMS OF THE MANAGEMENT PLAN		72
5.0 MANAGEMENT OBJECTIVES AND SPECIFIC LONG-TERM EXPECTATIONS			73
6.0 MANAGEMENT COMMITTEE AND THE MANAGEMENT FRAMEWORK FOR THE IMPLEMENTATION OF THE MANAGEMENT PLAN		80
7.0 MONITORING AND REVIEWING	85
8.0 PROGRAM OF ACTION	86

Chapter 1

INTRODUCTION

1.1 The Need for the Management Plan

The concept of World Heritage is at the core of the *Convention concerning the Protection of the World Cultural and Natural Heritage* (commonly referred to as the World Heritage Convention), adopted by UNESCO in 1972. It came into force in 1975, and established a World Heritage List as a means of identifying, protecting, conserving, presenting, and transmitting to future generations those parts of the world's natural and cultural heritage deemed to be of **Outstanding Universal Value** as a part of the world heritage of mankind as a whole. By ratifying the Convention, State Parties pledge to meet the provisions of the Convention and safeguard World Heritage Sites in their territories as part of their agreed policy for protecting their heritage. The *Operational Guidelines for the Implementation of the World Heritage Convention* (UNESCO 2016) stipulates that “each nominated property should have an appropriate management plan or other documented management system which must specify how the Outstanding Universal Value of a property should be preserved, preferably through participatory means” (Article 108). It further states that “the purpose of a management system is to ensure the effective protection of the nominated property for present and future generations” (Article 109). Moreover, it emphasizes on the need for an “integrated approach to planning and management ... to ensure maintenance of all aspects of their [the properties] Outstanding Universal Value” (Article 112) as a World Heritage Property (WHP).

The Government of Sri Lanka ratified the World Heritage Convention in 1980 and so far, eight cultural and natural heritage sites in its territory have been inscribed on the UNESCO's World Heritage List. Nominated by the Government of Sri Lanka, the Golden Temple of Dambulla was inscribed as the 561st site on the World Heritage List in 1991. The Management Plan that has been in force since 2010 is thus revised and updated to inform the UNESCO and the international community the Sri Lankan Government's commitment to;

- (a) identify and mitigate the risks that may impact the property;
- (b) to update the management system that preserve the Outstanding Universal Values of the property through participatory means; and
- (c) ensure the protection of the property for present and future generations.

Furthermore, by revising and updating the previous management plan, the Sri Lankan Government also responds to the Decision 40 COM 7B.46 adopted at the 40th Session of the World Heritage Committee held in Istanbul, 2016, and to the Decision 42 COM 7B.16 adopted at the 42nd Session of the World Heritage Committee held in Manama, 2018.

1.2 Purpose of the Plan

The purpose of the revised and updated Management Plan is to ensure an effective management system for the Dambulla WHP, and to provide an agreed framework between the State Party and all stakeholder parties of the property for long-term decision-making on the conservation and management of the site. Once endorsed by all stakeholder parties and approved by the relevant authorities, the revised Management Plan becomes the overarching strategic document for the WHP. Since the OUV of the WHP makes the site important for all humanity, it becomes the main focus of the Management Plan.

1.3 The Structure of the Management Plan

The Management Plan is organized in four parts as follows.

- Part I** sets the context for the Plan. It introduces the need for the Plan, and describes the Dambulla WHP including its legal framework, assessing its significance and setting out a statement of OUV for the property.
- Part II** sets out a framework for the management of the property by identifying the key issues in relation to protection and sustainable use of the property.
- Part III** defines the goal of the Plan by establishing the **Vision** for the property and the management objectives that support the vision.

Part IV maps out a possible route to the defined goal by explaining how the management objectives and supporting actions will be implemented, monitored and reviewed, and sets out a program of action for the seven-year Plan period and beyond.

Supporting information is provided as **Appendices** at the end of the Plan.

1.4 The Scope of the Revised Management Plan

Articles 4, 5, and 29 of the World Heritage Convention underlines several specific tasks that a States Party will have to undertake to ensure the sustenance of the OUVs of World Heritage properties situated in its territory. The World Heritage Resource Manual, *Preparing World Heritage Nominations* published by the UNESCO (2011: 89) explains that measures taken by the States Party to sustain the OUVs of a World Heritage properties must be the main focus of the Management Plan for that property. The present Management Plan describes those measures, and provides details of implementation of the measures in its action plan.

1.5 Process of developing the Management Plan

The Management Plan was developed through a participatory process involving a large number of stakeholders. They represented the Temple Authorities (TA); officials from the two state agencies mandated to safeguard cultural heritage of the country, namely the Department of Archaeology (DoA) and the Central Cultural Fund (CCF); experts in diverse fields who have been a part of a large multidisciplinary team of subject specialists; representatives of various state and local authorities who are responsible for the physical, economic, and social development of the area surrounding the Dambulla World Heritage Property (DWHP) (stated as the Property hereafter), and representatives of the community who have a stake in the management of the Property. In addition to the stakeholder meetings, several site inspections and unstructured opinion surveys were conducted by conservators and site management specialists to understand the conservation and site management issues in context. In between the stakeholder meetings and site inspections, several workshops involving state officials and heritage management professionals to discuss matters relating to policy and practice.

The process began with the appointment of a four-member Management Plan Writing Committee headed by a Consultant in July 2018. The members of the Committee were senior officials from the DoA and the CCF with many years of experience at the DWHP and hundreds of other sites in the country in architectural conservation, wall painting conservation, and heritage management. The Committee always worked in consensus in the process of developing the text of the Management Plan from the beginning to the end.

The first stakeholder workshop was held at the Dambulla Wall Painting Museum on 12. 07. 2018. The need for the revision of the Plan of 2010, and the issues highlighted by the ICCROM Reactive Monitoring Mission were clarified. The stakeholders discussed other issues that need to be addressed in the revised plan, and the future course of meetings to discuss the progress.

A fact-finding mission made of a group of conservators visited the site on 27. 12. 2018 to examine the state of conservation and conduct an observation and opinion survey with pilgrims and local and foreign visitors. The findings that were swiftly communicated to the Writing Committee were given due consideration during the compilation process.

The second workshop, chaired by the Chief Incumbent Monk of the Golden Temple of Dambulla, was held at Asgiriya in Kandy on 03. 01. 2019 with the participation of a wide cross section of stakeholders. The main outcome of the workshop was the decision for the establishment of the Management Framework for the DWHP, and the composition of each of the working units within the Framework. The second stakeholder workshop also discussed several of the major conservation and management issues that were incorporated into the Management Plan subsequently.

Following the second stakeholder meeting, the Writing Committee met several times at the Department of Archaeology to develop the text. Further elaboration of the issues, management objectives, and actions for implementation too were discussed at those meetings. Those discussions were culminated at the special meeting held on 21. 01. 2019 attended also by the Director General of Archaeology, and several other local experts who have many years of experience in the field of the management of World Heritage Sites, and in particular, in the

preservation of archaeological properties in Sri Lanka including the treatment of wall paintings at Dambulla.

The third stakeholder meeting was held on 27. 01. 2019 at Dambulla. The main focus of the meeting was to discuss the State of Conservation Report prepared by the DoA and how it is going to be incorporated into the Management Plan. The following day, some members of the Management Plan Writing Team met the Chief Incumbent Monk at his office at Asgiriya in Kandy to discuss several matters in connection with the establishment of the Management Committee, and other issues that needs to be clarified in the Management Plan. The same evening, the first draft of the Management Plan was submitted to the Chief Incumbent Monk for final scrutiny.



The Cave Shrines situated more than halfway up on the southern slope of the Dambulla Rock

Chapter 2.

DESCRIPTION OF THE WORLD HERITAGE SITE

2.1 General Information

Name of the World Heritage Site:	<i>Golden Temple of Dambulla</i>
Type of the Property:	<i>Cultural</i>
Geographical Coordinates:	
Center Point (Cave shrine):	<i>7° 85' 70.05" N; 80° 64' 80.81" E</i>
Total spread of the site: Latitude	<i>7° 85' 43.05" to 7° 86' 30.84" N</i>
Longitude	<i>80° 64' 35.54" to 80° 65' 21.37" E</i>
Country:	<i>Sri Lanka</i>
District and Province:	<i>Matale, Central Province</i>
Date of inscription to the World Heritage List:	<i>1991</i>

2.2 Introduction to the Golden Temple of Dambulla



Located near the geographical centre of Sri Lanka and at the northern edge of the central mountains as they descend to the great plains of the north-central Dry Zone, the Dambulla rock rises up to a height of about 180 meters? from the surrounding plain, and at a height of 168 meters above mean sea-level. It has been formed by the combination of two large rock outcrops, erosional remnants or inselbergs, each roughly domical in shape and separated by a narrow pass. The Sigiriya WHP lies about 16 km to the north-east of Dambulla WHP. Like Sigiriya, the Dambulla rock is also of considerable importance and interest in the study of Sri Lanka's geological history.

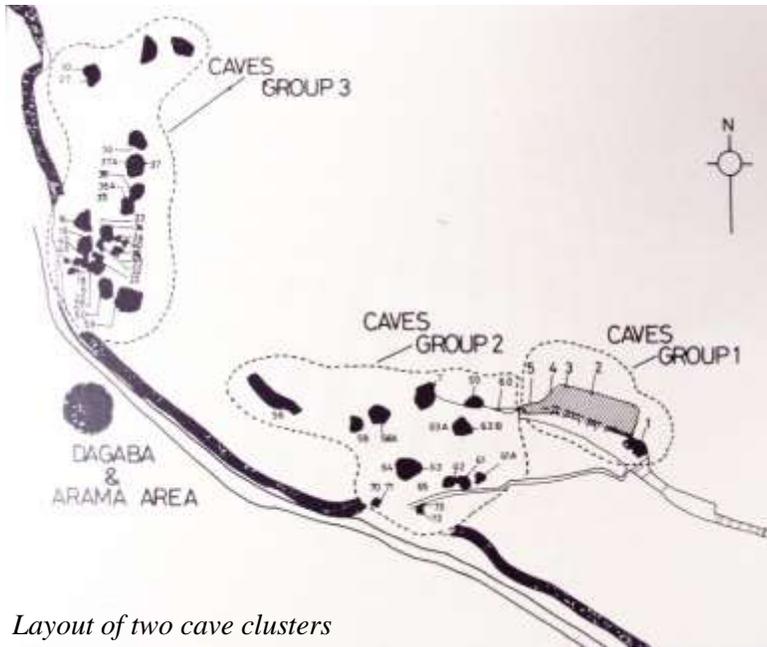
Dambulla is also situated at the intersection of the two modern trunk roads that links the four major cities of the island, Colombo-Trincomalee (A6) and Kandy-Jaffna (A9). It was a junction for exchange and trade routes since the earliest periods and continues to be so in the present times. From historical times to the present day, Dambulla has played an important role in the communications system of the northern half of the country. It continues to function as a radial hub or nodal point between the eastern and western sections of the Dry Zone and also as a gateway from the Dry Zone plains to the central mountains. This location, its distinctive



Rock of Dambulla

- 1. Modern settlement*
- 2. Peripheral processional path*
- 3. Pilgrim paths to the cave shrines*
- 4. Present monastic residences*
- 5. Historic monastic cave residences*
- 6. Cave shrines*
- 7. Summit of the rock*

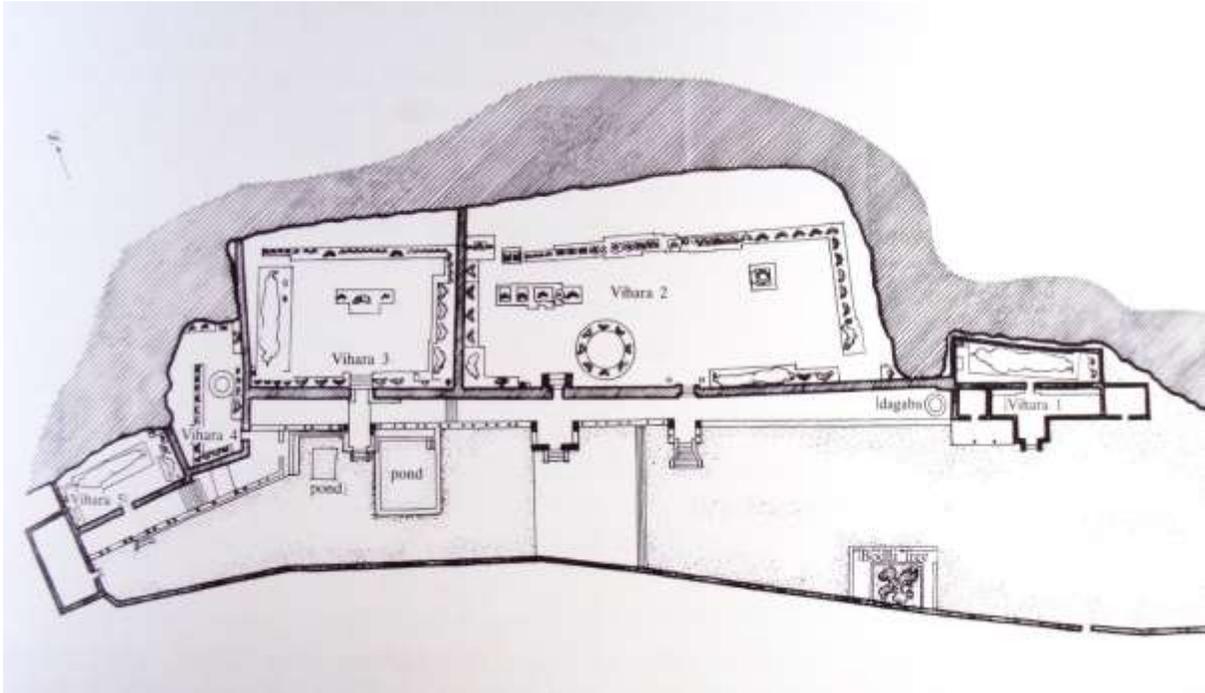
topography and its surrounding natural resources have made Dambulla an important focus of human activity through various historical periods. Added to this is the extraordinary and unspoilt natural beauty of the site, with its massive rocks interspersed with deeply-forested tracts.



There are about ninety caves or rock shelters associated with the Dambulla rock that are scattered in two clusters, one facing the southern and the western directions. The major focus of Dambulla from both religious and heritage points of view are the group of five cave shrines (marked as Caves Group 1) within the southern cluster situated more than halfway up on the south-western slope of the rock.

Layout of two cave clusters

The Cave Shrines



Layout of five Cave Shrines

The shrines of Dambulla have been formed out of a deep cavern, part natural and part excavated. The large enclosure is partitioned into five separate chambers using screen walls. The five caves are numbered from 1 to 5 from the east to west, and share a common verandah in front facing the south. An entrance hall or doorway known as *Vahalkada* of recent date, located to the east of the cave complex, provides access to the frontal compound of the shrines.

The cave shrines are entered through doorways, and are lit and ventilated by windows positioned on the frontal screen wall of the caves. Cave shrine 1 has a recumbent Buddha image as its principal object of worship, carved out of the living rock and occupies nearly three-fourths of its interior space. Cave shrines 2 and 3 are the largest and the second largest interior spaces respectively of this complex. In Cave shrine 2, in addition to the Buddha images, there is also an enclosure to collect the holy water that drips through a fissure in the overhanging ceiling of the rock. Cave shrines 4 and 5 are located slightly off the SE–NW axis of the Cave shrines 2 and 3.

2.2.1 Brief History

Dambulla is an extremely complex heritage site, a palimpsest reflecting successive periods of human occupation, with a history extending from prehistoric and proto-historic times right down to the modern period.

Pre-history

Along the western slopes of the Dambulla rock is a series of large boulders, terraces, and caves that formed the habitat of the prehistoric man. Excavations on the uppermost terrace of the Dambulla complex have yielded remains of prehistoric stone implements. They are the first indications of a process of successive waves of human activity at Dambulla, when one historical period overtakes another, leaving signs or remains of its predecessors behind. These prehistoric remains make Dambulla one of a small and rare group of recently identified prehistoric rock-shelter sites in the northern Dry Zone.

Proto-and Early-Historic Periods: Emergence as Monastic Rock-shelter Residences

Prehistoric man was succeeded by the first settlers and farmers of the proto-historic period at some time during the first millennium BC. Dambulla is surrounded by a number of megalithic cemeteries and proto-historic and early historic settlements. The best known of these is Ibbankatuva, located about 2 km to the south-west of Dambulla, which seems to be closely linked to the Dambulla complex. The megalithic cemetery at Ibbankatuva is one of the largest in the country.



A cluster of megalithic tombs at Ibbankatuva: During excavations and after its landscaping and layout

Two of its 42 clusters of megalithic tombs have been excavated, yielding a rich body of information about the beginnings of iron-age farming in the area. Early settlement sites on the bank of the *Dambulu-Oya*, the Dambulla River, are amongst the oldest villages and proto-urban settlements that provides significant evidence on the rural base of Sri Lanka's classical civilization. It seems likely that major settlements such as Ibbankatuva formed the social and economic infrastructure which sustained the early Buddhist monastery at Dambulla, and that the titled donors of the monastic rock-shelter residences were from amongst the elite of these hinterland farming communities.

Thus, the proto-historic period at Dambulla merges with the early-historic one. At some time around the third century BC, the western and southern rock face and surrounding boulder area became the location for one of Sri Lanka's largest early monastic settlements of the forest-dwelling Buddhist monks. The area from the upper terrace downwards that contains nearly ninety rock shelters in two clusters facing the south and west had been adopted as the dwellings of the monastery. These early monastic cave dwellings are marked by a drip-ledge cut along the brow so as to prevent rain water flowing in to them. Some of the caves contain donor-inscriptions carved just below the drip-ledge. Thirty-seven such donor-inscriptions ranging between the third-century BC and the AD second-century have been found in association with the drip-ledged rock shelters.

The chronicles such as the *Rajavaliya* and the *Rajaratnakara* ascribe the formal establishment of this monastic settlement to King Valagamba or VattagamaniAbhaya (103 and 89-77 B.C.), a ruler of the Anuradhapura dynasty associated in popular belief with nearly all ancient rock-shelter monastic sites in the country. It is the uppermost group of five-rock shelters on the southern face of the Dambulla rock that continued into the subsequent historical period as the ritual and artistic centre of the Dambulla complex. The largest of these, Cave Shrine 2, is known as the Maharaja Vihara after its traditional founder, King Valagamba or VattagamaniAbhaya. Its drip-ledge still bears an ancient inscription in Early Brahmi characters, testifying to its establishment in the reign of "Gamini Tisa", and is thought to refer to Vattagamani Abhaya. The inscriptions carved on the rock-cut steps of the pilgrim pathway leading to the uppermost group of five caves that belong to the period between the AD first and the fourth centuries reveal the increasing popularity of the site during the early historical period.

Middle-Historical Period: Development as a Major Religious Center

Since its founding in the third century BC, the uppermost group of rock shelters seems to have been in continuous occupation for more than twenty-two centuries right down to the present day. Remains of many successive periods of use are visible today. During the Middle Historical Period (c. AD fifth to thirteenth centuries), Dambulla continued to develop as a major religious centre.

The ancient residential rock shelters on the upper terrace were converted into shrines. These retained the original drip-ledges of the early period but now took the form of deep rock temples, with large screen walls of adobe or brick masonry and elaborate entrances, forming a façade whose details could no longer be conjectured, but whose broad plan and basic structural principles are echoed in what is to be seen at the site today.

Documentary and archaeological evidence, such as the fragments of painting remaining below the drip-ledge of Cave Shrine 3 dating from between the fifth and the seventh centuries, suggests that after their original founding, the Dambulla caves were in use through the Early and Middle Historical Periods. The archaeological investigations carried out in 1980's and 90's at the base on the western side of the rock have unearthed a stupa, *bodhi*-tree shrine, and a chapter house datable to two periods of construction; namely, the period from the fifth to the sixth century, and the period from the ninth to the tenth century. This could be a ritual center that flourished until the 10th century (end of the Anuradhapura period) of this monastic establishment.

The literary sources and inscripational evidence suggest that the uppermost group of five cave shrines have become a center of royal and religious activity during the latter part of the Middle-Historical Period (eleventh and twelfth centuries, when Polonnaruva was the capital of the Island). The chronicle *Chulavamsa* refers to the renovations carried out by King Vijayabahu I (1055 – 1110) at these cave shrines. Several chronicles including the *Chulavamsa*, the inscription carved on the rock surface near Cave Shrine 1 and a *tudapata* (ola-leaf manuscripts certifying the land grants to the temple by subsequent kings) record that King Nissankamalla (1187 – 1196) is responsible for commissioning the sculpture in Cave Shrine 1, the DevarajaVihara (the shrine of the King of the Gods), refurbishing the existing cave shrines, gilding seventy-three Buddha images and giving the cave shrine the name 'Svarnagiri-guha' (meaning Golden Rock Cave). Such evidence also suggests the existence of the Buddha images at Dambulla cave shrines prior to the renovations done by the Polonnaruva kings.

Late-Historical Period: Zenith of Religious Art and Spatial Design

The documentary records suggest that with the commencement of the Late-Historical Period in the fourteenth century, numerous kings such as Bhuvanekabahu V (1357 – 1374), Rajasinghe I (1554 – 1593), Vimaladharmasuriya I and II (1590 – 1604 and 1687 – 1707), Senarat (1604-34) and Narendrasimha (1707 – 1739) have contributed to restore and rehabilitate the cave shrines. Towards the end of the Late-Historical Period, from the mid-seventeenth to eighteenth centuries, Dambulla once again becomes a centre of major political and religious activity. In keeping with longstanding traditions, the entire cave shrine complex is restored and refurbished during the revival of Buddhism and Buddhist art in the reign of Kirti Sri Rajasimha (1747-82).

The documentary evidence suggests that before the interventions of Kirti Sri Rajasimha, there existed only four caves, namely, Devarajavihara (Cave Shrine 1), Maharajavihara (Cave Shrine 2) and Pacchimavihara (Cave Shrine 4). The Maha-Alutvihara (Cave Shrine 3, meaning great new shrine) was a work of Kirti Sri Rajasimha. In addition to the establishment of Cave Shrine 4 by installing Buddha images and covering its interior surfaces with mural paintings, all other cave shrines were entirely repainted or over-painted in the post-classic style of the central Kandyan School of the late-eighteenth century.

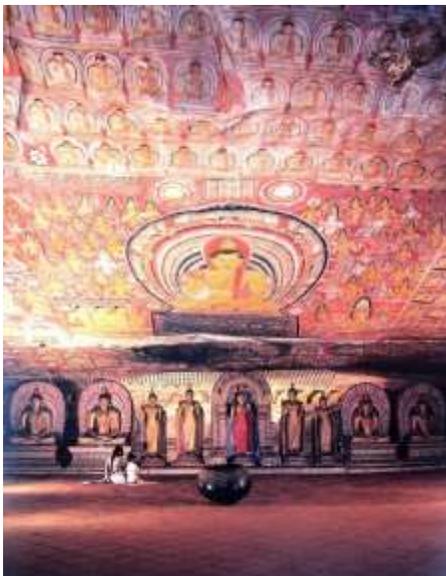
This phase is considered to be the culmination of the religious art and spatial design of the Dambulla cave shrines. However, there are no references to the Cave Shrine 5, called Devana-Alutvihara (meaning second new shrine) in the *tudapatas* of the kings up to time of Kirti Sri Rajasimha. The Englishmen John Davy who visited the site in AD 1819 and left an elaborate account of the cave shrines at Dambulla has not mentioned of this last cave. However according to the legends written on the walls of this cave, the nobleman Ehelepola of Tolambugolla Korale had renovated the cave shrine in 1915. It is, therefore, obvious that it was built at a much later period, probably in the nineteenth century.

Modern Period:

With the collapse of the last independent Sri Lankan kingdom in 1815, Dambulla lost its royal patronage. However, despite the setbacks resulted in from this change of political situation, the paintings and sculptures were periodically repainted, in keeping with the living traditions of renovating the shrine. The last cycle of significant re-painting activity has been carried out from 1915 onwards, when Cave Shrine 5 was repainted on the basis of a commission by a local nobleman. The artists in charge of these refurbishments were the hereditary master craftsmen, the direct descendants of the eighteenth-century masters. (When the Central Cultural Fund undertook the painting conservation program at Dambulla under the UNESCO – Sri Lanka Project of the Cultural Triangle in 1980's, the 18th generation of those painters were still active at the temple, and they were incorporated into the CCF team of mural conservators).

The final additions to Dambulla were the construction of the present verandah facades by the Custodian Monk of the temple in the 1930s. Despite these developments, Dambulla complex retains its palimpsest of various historical periods and especially the integrity of its penultimate eighteenth-century developments.

2.2.2 Paintings



One of the great panel compositions: The First sermon of the Buddha

The murals at Dambulla cave shrines mainly depict religious themes as Buddha images and life incidents of the Master. At the same time, several themes dealing with political and religious

history of the Island as well as Buddhist cosmological subjects are also found. These paintings are largely composed as continuous narratives or as centralized compositions. The rows of *arhats* (enlightened disciple of the Buddha) approaching the Master amidst the clouds and either in the worshipping attitude or carrying flowers are also depicted. Decorative motifs in both abstract geometrical form and naturalistic manner have also been painted in abundance. These murals cover an area of more than 2,000 square meters of internal wall and rock ceiling surface within the five cave shrines.



*Temptation of the Buddha
by the Daughters of Mara*

The largest of these is Cave Shrine 2, an elaborate complex of paintings, sculpture and interior design, is one of the most ambitious undertakings of the Kandyan artists. Three sets of paintings in the form of continuous narration are found here: the *BuddhaCharita* (the life incidence of the Master) registers in the main chamber, and the 'Arrival of Vijaya' and 'Advent of Buddhism' sequences in the southern recess. Buddha's enlightenment after the *Mara Parajaya* ('Defeat of Mara') constitutes the main theme of the ceiling. The *Isipatana* panel, with its exquisite craftsmanship in the treatment of the nimbus around the Buddha and the elegance and variety of its massed gods and goddesses, is rarely matched elsewhere in Kandyan art.

The limpid and elegant draughtsman-ship of some of the best scenes from the *Buddha Charita* registers belong firmly to the central Kandyan style, and are entirely different in feeling from the

confident and vigorous renderings of the same style in the 'Advent of Buddhism' murals in the recess. The Vijayan sequence, especially the representation of a lotus pond in which Vijaya's companions are bathing, is an unusually free composition, using the decorative language of Kandyan painting for a narrative purpose. The ambulatory murals, on the other hand, are even more unusual, with their nearly life-size proportions and free and varied use of the portrait and hieratic styles for narrative composition. The great celestial palaces in these two shrines, especially the ones on the ceiling of Cave Shrine 3, are some of the largest, most impressive and most architecturally informative expressions of this subject in Kandyan painting.

Despite nearly two hundred years of re-painting and over-painting at Dambulla, it is significant that the main body of eighteenth-century wall-painting, especially in Cave Shrines 2 and 3, has remained untouched and in a relatively good state of preservation. Dambulla, therefore, constitutes a source-book and a focal centre for the study and appreciation of the Kandyan tradition of Buddhist temple painting.

The murals at Dambulla are the largest preserved group of mural paintings in the region, after the cycle of ancient paintings at the Indian site of Ajanta. They are also one of the finest examples of Late-Historical Period murals belonging to a pan-regional tradition that extends across south and Southeast Asia, especially in Southern India, Sri Lanka, Myanmar, and Thailand. Dambulla is undoubtedly one of the finest and most impressive expressions of this tradition.

2.2.3 Polychrome Sculpture

Dambulla has also one of the richest collections of Buddhist sculpture in the form of a large number of Buddha images in standing, seated, and recumbent postures as well as a few outstanding figures of deities and Bodhisattvas. Additionally, it also has three rare royal portrait sculptures. A large number of these images date from the Middle-Historical Period, (circa. A.D.



Polychrome images of the Buddhas in Cave Shrine 3

fifth to eighth century), but many of these have been restored or re-modeled in the eighteenth and nineteenth centuries, although their original styles, detail and iconography have been substantially preserved. Few of the extant standing Buddha images follow the seventh or eighth century style of sculptural characteristics with the heavy swag and convex fold and the concave pleats of the robe. A number of new sculptural elements has also been added during the Kandyan period and in more recent times, but follows the traditions of the classic period.

The richest ensemble of sculpture at Dambulla, like the paintings, is found in Cave Shrine 2, the great Maharaja Vihara. The main entrance to this shrine, from the south, leads directly to the principal Buddha image and *makaratorana* (archway depicting dragon like creature), both fashioned out of the natural rock and linked by the Bodhisattva Maitreya and the god Natha, and also by two seated Buddhas. Behind the main image are statues of gods Saman and Visnu / Upulvan, two of the four guardian gods of Lanka, as well as painted representations of the god

Skanda / Kataragama and the elephant-headed god Ganesa. A long line of Buddha images, possibly representing the previous Buddhas, extends eastwards, dominating the northern and eastern extensions of the shrine.

At the western end, four other seated images face the chamber and are thought to be the four most recent Buddhas, Kakusanda, Konagama, Kasyapa and Gautama; to the right as we face the main image is a stupa with eight directionally-oriented Buddha images, while to the right of the southern door is a recumbent Buddha image, dating from the late nineteenth or early twentieth century. Two royal portrait figures, one representing King VatthagamaniAbhaya, the traditional founder of the temple, and King Nissankamalla who visited Dambulla and restored and refurbished the cave shrines in the twelfth century, are located at the western and eastern ends of the cave respectively.



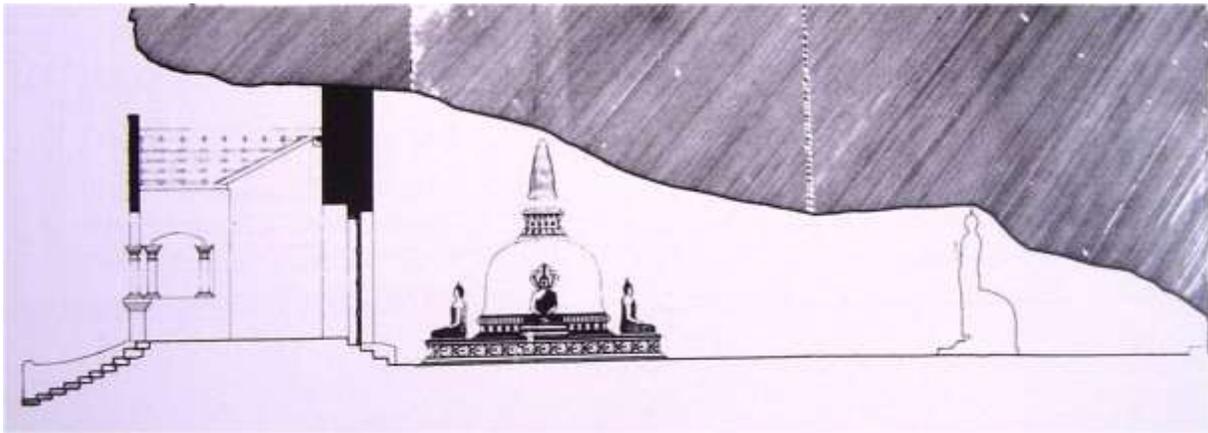
Buddha images inside Cave Shrine 2

The centre piece of Cave Shrine 3, an outstanding example of eighteenth-century Kandyan sculpture, is the main Buddha image seated on a seat or throne decorated with lion motifs, and surrounded by a *makaratorana* executed in the elaborate polychrome detailing of the central Kandyan tradition. This cave also contains the third royal portrait sculpture at Dambulla, an unusual mid-nineteenth-century full-figure sculpture of King Kirti Sri Rajasimha, standing against a painted mural backdrop depicting a cloth hanging and royal attendants. This portrait sculpture, executed perhaps 50 or 100 years after the king commissioned the renovation work, together with earlier portrait sculptures identified with King Valagamba and King Nissankamalla, the royal patrons who contributed to the development of this shrine complex about 2,000 and 700 years ago respectively, showcase how Dambulla was always conscious of its politico-historical continuities and its transformations. These royal portrait sculptures, dressed in royal attire and showing individualistic physiognomic features, are valuable contributions of the artists to the study of portrait sculpture of ancient Sri Lanka.

The combination of early and later period sculptures in the five cave shrines at Dambulla showcase how, in a living tradition, new sculptural elements are added to an existing ensemble without obscuring or interfering with the integral character of the older sculptural forms.

2.2.4 Architecture and Interior Design

The shrine complex of Dambulla has been formed out of a part-natural and part-excavated deep cavern. Demarcated by frontal screen walls and partition walls on either side, there are five separate cave shrines at Dambulla. These five cave shrines together contain an internal floor area of about 1,100 square meters and constitute one of the largest complexes of ancient cave or rock-shelter architecture in the South and South-East Asian region. The architectural masterpiece of the Dambulla complex is the Cave Shrine 2, the Maharaja Vihara, which has been formed by the introduction of frontal screen walls and partitions to the central section of the great cavern. Extending about 52 meters from east to west, and 23 meters deep, it has a maximum height of seven meters near the frontal screen wall.



Interior view and the cross section of the Cave 2

Two separate doors of the frontal screen wall provide entry to the shrine from a wide verandah. Its vast interior, one of the most dramatic internal spaces in Buddhist architecture, is not compartmented, but is spatially differentiated by a complex arrangement of paintings, statues and other ritual objects like *stupas*. Despite the absence of conventional spatial elements like walls, a loosely defined but clearly observable system of spatial progression and hierarchy exists within this elaborately painted and sculptured space, thus creating a purposive interior layout for distinctive ritual functions devoid of physical divisions.

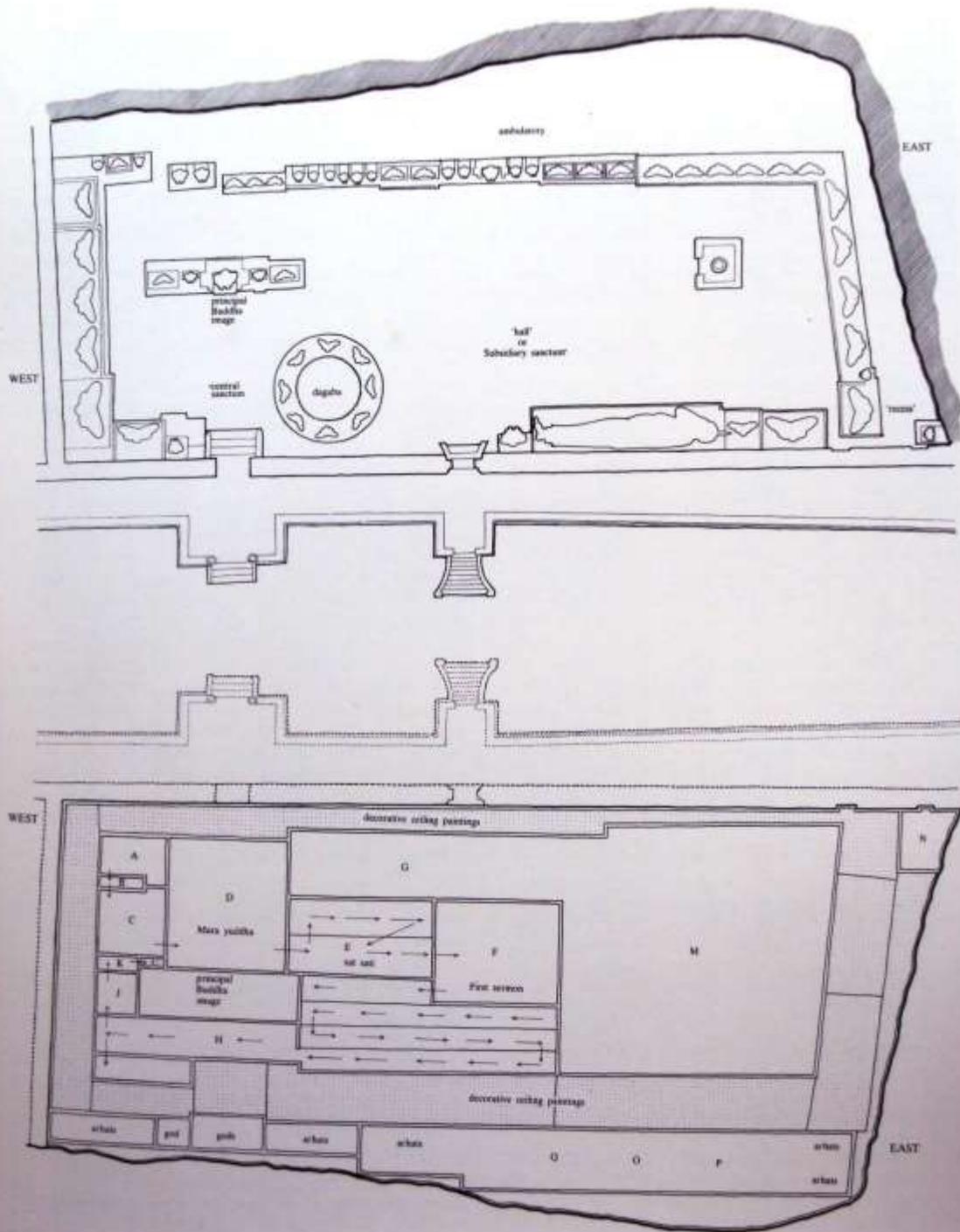
The iconography of the shrine divides the interior into three distinct spaces, i.e., the central sanctuary, antechamber and the ambulatory. The central sanctuary in front of the principal

Buddha image, with its *makaratorana* and attendant deities, is flanked by two subsidiary areas to the east and west, one surmounted by a small stupa, surrounded by eight seated Buddha images. Moving further east, one finds an extension or 'antechamber' to this central sanctuary, in the form of a hall or subsidiary sanctum, covering a large, relatively open space. Its limits are defined by the *stupa* and central sanctuary on the west, rows of Buddha images to the north and east, and a large recumbent image to the south. This area can be entered directly from the southern doorway or from the central sanctuary. At the centre of the eastern section of this antechamber area, a large vessel is placed to collect water dripping from the ceiling of the cave, the water believed to have sacred properties and is used in daily temple offerings.

On an entirely different level of ritual importance is a recess in the south-eastern corner of the shrine behind the eastern row of seated Buddha images, guarded by a royal portrait statue traditionally identified as being that of King Nissankamalla. This forms a kind of entrance to an outer passage or 'ambulatory' running behind the row of seated images and connecting the southern recess with the northern extremity of the chamber. These three major elements form a total conception which displays an intricate interior design, whose spatial divisions are both defined and reinforced by the deliberate arrangement and iconography of the paintings and sculptures.

The rows of Buddha images, placed on a common pedestal is a deliberate architectural device serving the double purpose of providing an imaginary height to the rear wall of the cave, which otherwise would almost be touching the ground and, at the same time, forming an ambulatory running round these wider caves. The painted rock ceiling which extends beyond the rows of the Buddha images also provides an extraordinary sense of depth in each of these cave shrines.

The cave shrine complex can be compared with major Indian sites such as Ajanta, Ellora or Karle, but belong to an entirely different type, consisting of an outer verandah formed by a lean-to-roof

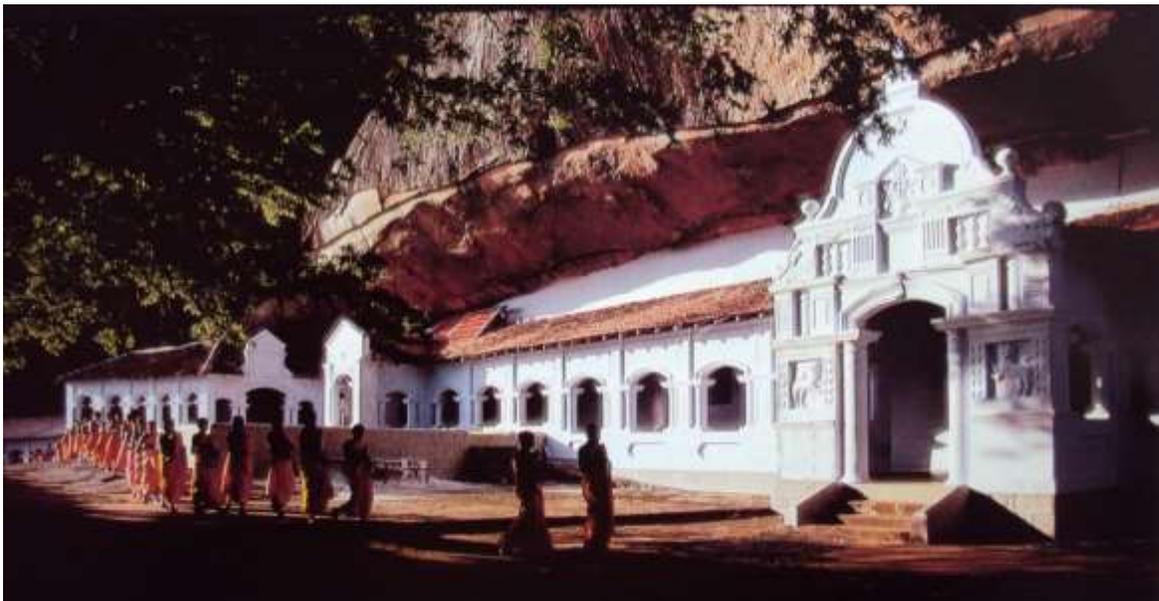


Ground plan and ceiling plan of Cave 2

set against the frontal screen walls of the caves. The present galleried outer verandah and the arcaded façade, constructed by the Chief Incumbent Monk of the complex in the 1930s, in a form conceptually similar to that was known to have existed here in the eighteenth and nineteenth centuries, is in a style which is a mixture of European and Asian detailing. It is deployed in a manner typical of Asian transitional architecture from the late-nineteenth to early-twentieth century. This is a distinctively Sri Lanka expression of a broad South Asian temple concept and has few parallels elsewhere. Dambulla is undoubtedly the largest, the most dramatic, the best-preserved and the most integrated example of a living cave shrine in the Buddhist world.



Ambulatories of Cave 2 and 3



Present galleried outer verandah and the arcaded façade

2.2.5 Dambulla as a Living Heritage Property

The management of the World Heritage Property of Golden Temple of Dambulla has to be envisioned in its context as a living Buddhist shrine and a popular site of pilgrimage that attracts devotees from all over Sri Lanka and from several other countries of the region. Worshippers offer flowers, light oil-lamps, burn incense-sticks, recite religious stanzas, and spend several minutes or even hours gazing at the images of the Buddha meditating in silence. Additionally, the Buddha is also offered ritual alms, commonly made of rice with curry, in all five cave shrines early in the morning and pre-noon time, a ritual that takes for about 15-20 minutes each time (It is noteworthy that the ritual food is prepared using the sacred water that drips from the ceiling and collected in a copper caldron in Cave Shrine 2, a phenomenon that is traditionally believed to be caused by divine action.). Other rituals performed by some devotees inside the cave shrines are the worshipping of the images of deities of Buddhist-Hindu or Mahayana origins.

In addition to the rites practiced daily inside the cave shrines, there are several other rituals connected with the temple that are performed on monthly or yearly basis. Some of those rituals are performed by people living in neighboring villages with the hope of invoking blessings of various deities to ensure the well-being of people. Such rituals, while helping encouraging the dialogue among communities, help ensure the position and role of the temple as a real living heritage of the people.

The significance of the above-described intangible cultural heritage values of the property that connects people and communities together with each other and that expresses the identity of Dambulla has been taken into consideration during the process of upgrading the management system. However, the Management Plan does not attempt to propose safeguarding plans for the intangible cultural heritage element(s) of Dambulla as it is beyond the scope of the present document. However, by mentioning this matter, it is intended to emphasize that the management committee will refrain from taking any action that will negatively affect the living nature of the Property.

2.3 Justification for Inscription on the World Heritage List

2.3.1 Criteria for Inscription on the List of World Cultural Heritage

As per the procedure stipulated for the inscription of properties on the World Heritage List in the Operational Guidelines for the implementation of the World Heritage Convention, the nominated properties have to be of **Outstanding Universal Value** (OUV) that is determined by six Criteria. The OUV means cultural or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. Accordingly, based on the recommendations of the ICOMOS evaluation report on the property of November 1991 submitted to the World Heritage Committee, the Golden Temple of Dambulla has been inscribed on the World Heritage List under Criteria I and VI mentioned below.

***Criterion I:** Represent a unique artistic achievement, a masterpiece of human creative genius.*

***Criterion VI:** Be directly or tangibly associated with events or with ideas or beliefs of outstanding universal significance (the Committee considered that this criterion should justify inclusion in the List only in exceptional circumstances or in conjunction with other criteria)*

2.3.2 Retrospective Statement of Outstanding Universal Value

Although the ICOMOS had drafted the justifications for inscription of the site on the List of World Cultural Heritage under the above mentioned Criteria in 1991, there was not a requirement to make a **Statement of Outstanding Universal Value** (SOUV) in the nomination. It was only in 2005 that the SOUV was introduced in the Operational Guidelines for the Implementation of the World Heritage Convention in 2005 as an essential requirement for the inscription of a property on the World Heritage List. In 2007, the World Heritage Committee, in its Decision 31 COM 11D.1, requested that Statements of Outstanding Universal Value be drafted and adopted

retrospectively for all World Heritage properties inscribed between 1978 and 2006. Accordingly, the Retrospective Statement of Universal Value (RSOUV) for the site was adopted at the 42nd Session of the World Heritage Committee in 2018. The adopted RSOUV for the site that is made of five components; namely, the Brief Synthesis, Criteria, Integrity, Authenticity, and Protection and Management Requirements is given below.

2.3.2.1 *Brief Synthesis*

Located in central Sri Lanka, the Golden Temple of Dambulla is a living Buddhist site that is focused on a series of five cave shrines. Inhabited by forest-dwelling Buddhist monks since the 3rd century BCE, these natural caves have been transformed continuously throughout the historical period into one of the largest and most outstanding Buddhist complexes in the Southern and South Eastern Asian region, showcasing innovative approaches to interior layout and decoration. In keeping with a longstanding tradition associated with living Buddhist ritual practices and continuous royal patronage, the cave shrines underwent several renovation and refurbishing programs before assuming their present interior forms in the 18th century.

The vast internal spaces of the cave shrines are not compartmentalized, but are spatially differentiated by a deliberate and subtle arrangement of polychrome sculpture of exceptional craftsmanship and decorated with brilliant compositions of mural paintings. This spatial hierarchy and purposive interior layout devoid of physical divisions lead the devotees systematically through the spaces from one ritual function to the next. The site is remarkable in the Buddhist world for its association with the continuous tradition of living Buddhist ritual practices and pilgrimage for more than two millennia.

2.3.2.2 *Criterion (i)*

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 art in the Sri Lankan school of Kandy.

2.3.2.3 Criterion (vi)

Dambulla is an important shrine in 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.

2.3.3.4 Integrity

The property includes all the elements and components related to different facets of creativity that are necessary to express the Outstanding Universal Value of the property, such as the polychrome statuary either molded with stucco or clay or carved out of the living rock within the cave shrines, mural paintings, and interior layout. The physical fabric of these elements is in good condition and has been preserved to express this value. The property currently does not suffer from any adverse effects of development or other pressures.

2.3.3.5 Authenticity

The overall form and design as well as the materials and substance of the mural paintings that cover the interior surfaces of the cave shrines and the rock-cut and molded statuary within the caves have been retained. No interventions have been carried out to change the overall form and design of the interior spaces of the caves, or the location and positioning of sculptures and paintings in relation to their interior layouts. The interior spaces are still being used by pilgrims for ritual Buddhist practices, thus maintaining the original use and function as well as the spirit and feeling of their interior spaces.

2.3.3.6 Legal Ownership

The Golden Temple of Dambulla is a privately owned Buddhist temple, which is an active place of worship. The Temple belongs to the Asgiriya Monastic Chapter of the Council of Buddhist monks of Sri Lanka. Therefore, as the Temple owners, Buddhist monks of the Temple play the key role, not only performing ritual functions, but also facilitating for the needs of the pilgrims, and attending to day-to-day maintenance requirements of the Property.

The Chief Prelate of the Asgiriya Monastic Chapter appoints the Chief Incumbent Monk for the Dambulla Temple who will be in-charge of all matters of the Temple that include legal, financial, ritual, and resource management. He provides leadership for the sustenance of the living nature of the temple by conducting the daily rituals as prescribed in the tradition from the times of ancient Sinhala kings. Additionally, the Chief Incumbent Monk takes care of general maintenance, protection, and upkeep of the Property. The Commissioner of the Department of Buddhist Affairs (DoBA), with powers vested in him/her by the Temporalities Ordinance of Ceylon no. 3 of 1889, oversees the affairs of the temple that are not covered by the religious practices of the temple.

2.3.3.7 Protection and Management of Heritage Attributes

Due to the historical nature and attributes of the Temple, the Department of Archaeology has declared it as a 'Protected Monument' in 1957 under the Article 18 of the Antiquities Ordinance of 1940 (rev. 1998). The Article 19 of the Ordinance allows that the Chief Incumbent Monk as the owner of the Temple and the Director General of Archaeology to "... *enter into a written agreement providing for the due conservation of such monument and its protection from danger of destruction or removal and from damage by neglect or injudicious treatment.*". Furthermore, according to Article 4.1 of the Buddhist Temporalities Ordinance, the DoA in concurrence with the owner of the temple to intervene in the conservation and restoration work of the temple.

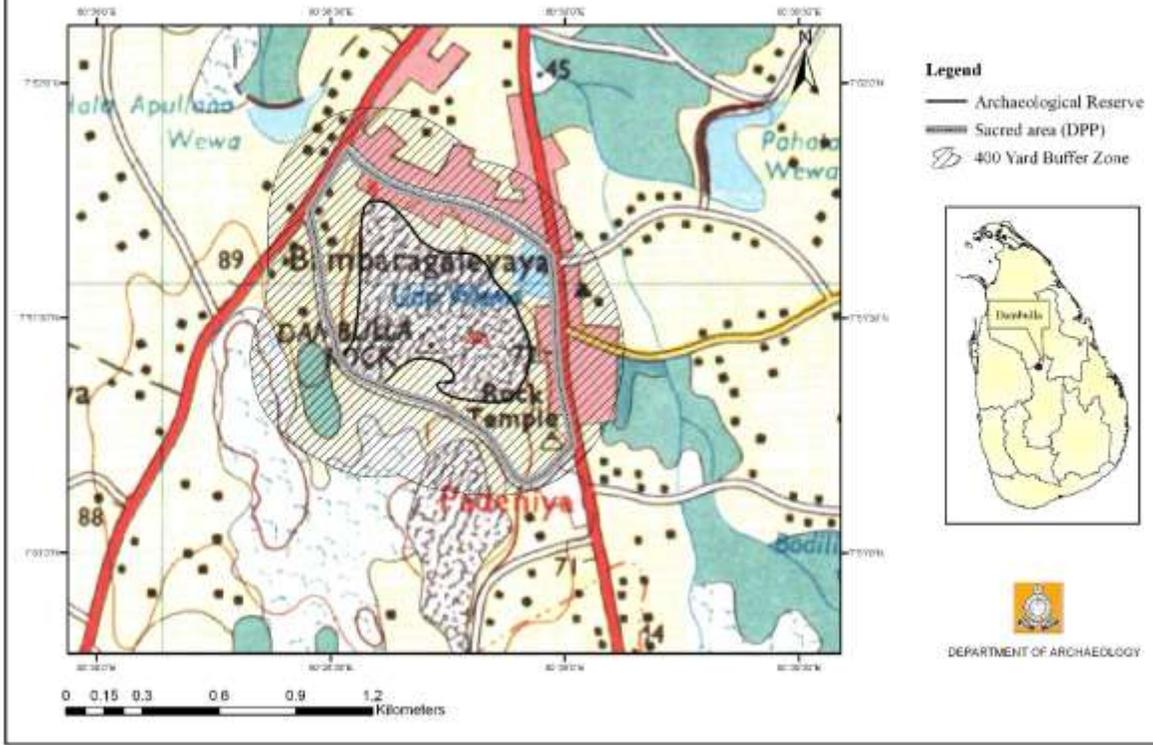
The DoA in concurrence of the Temple Authorities (TA) will either undertake the conservation treatment by itself with the help of its own conservators, or will issue a license to a competent third party agency to carry-out the conservation and restoration work on the Property. It was on a license issued by the DoA in concurrence with the TA that the Central Cultural Fund (CCF) carried-out the long-term documentation and conservation program at the Temple from early-1980s to mid.1990s. This legal arrangement demonstrates the joint mutual commitment of the Temple Authorities and State to work together to protect the heritage values of the Property. Protection in the area surrounding the temple is described in the sub-section 'Buffer Zone' below.

2.3.3.8 Buffer Zone and the Sacred Area

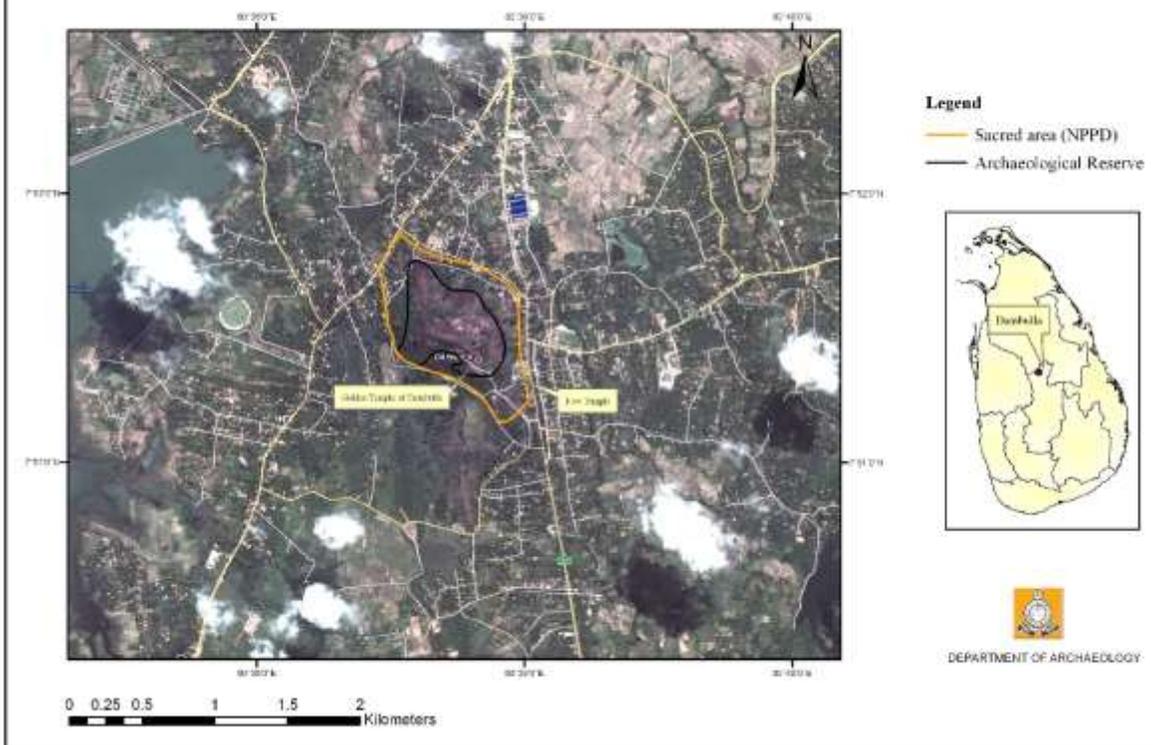
An approximately circular zone covered by a distance of 400 yards from the edge of the rock has been designated as a buffer zone by the Department of Archaeology under the same Antiquities Ordinance mentioned above. Under the provisions of the Ordinance, interventions within the Buffer Zone requires the approval of the Director General of the Department of Archaeology who, after making an assessment, ensures that such interventions will have no impact on the World Heritage Property.

The area surrounding the Golden Temple of Dambulla has already been declared as a Sacred Area by Gazette Notification No. 137 of 16 April 1981. A plan for the development of the sacred area was prepared by the National Physical Planning Department (NDDP) in the 1990s. However, due to the need for an accelerated urban development planning for Dambulla town, it had necessitated the Sacred Area to be incorporated into UDA development planning program in 1994. This Development Plan for the Sacred City is now a part of the UDA's Development Plan for Greater Dambulla Urban Development Area, Gazetted in 2008.

BUFFER ZONES, GOLDEN TEMPLE OF DAMBULLA



GOLDEN TEMPLE OF DAMBULLA



2.3.3.9 Minor Boundary Modification of the Buffer Zone

The DoA is considering the expansion of the Buffer Zone of the Property to include the Sacred Area as well. This was viewed as much beneficial to the DoA as the UDA Law has strict planning regulations and implementation mechanisms over development. A discussion has already been initiated with a view to adopt the Sacred Area established under the above mentioned plan as the new Buffer Zone for the WHP. Once the plan is finalized and agreed upon by all parties, authorities wish to submit to the World Heritage Committee a Minor Boundary Modification covering the new Buffer Zone.

2.3.3.10 Minor Name Modification

The issue of the historically correct name of the Property was discussed at the stakeholder meetings. The present name as inscribed on the UNESCO List seems to have created some confusion due to the same name applied to another temple located in the vicinity. The stakeholders wish to propose to the World Heritage Committee to consider changing the name of the property to *'Rangiri Dambulla Cave Temple'*.

Chapter 3

KEY ISSUES FOR THE CONSERVATION AND MANAGEMENT OF THE PROPERTY

3.1 Introduction and Sources

This chapter is an overview of the current condition of the Dambulla WHP, outlining the issues that might effect on its attributes, authenticity, and integrity. They derived from outcomes of stakeholder meetings and from observations made by subject experts and consultants. By stating those issues, the chapter sets out a framework for the conservation and management of the Dambulla WHP to ensure the protection and continued sustainable use, and the upholding and maintenance of the OUV.

The framework requires identifying the key issues that need to be addressed by the management strategy proposed in the Management Plan. The key issues prompt to formulate the primary management objectives for the protection of the attributes that reflect the OUVs of the Property. The sources of information of subject experts and consultants are given below.

- Mission Report: ICCROM/UNESCO Sri Lanka Cultural Triangle Project – Mural Painting Conservation Workshop, Rajamahavihara/ Dambulla/ Sri Lanka, March 4-28, 1991.
- 'Golden Temple of Dambulla: World Heritage Site Management Plan', Central Cultural Fund, 2010. The management plan, prepared in 2010 and is currently in-force.
- 'Report on the ICOMOS Reactive Monitoring Mission to the Golden Temple of Dambulla (Sri Lanka)' (March 2015);
- Decision **40 COM 7B.46** of the World Heritage Committee adopted at its 40th Session held in Istanbul (July 2016) and in Paris (Oct 2016);
- 'Sri Lanka Mission to the UNESCO World Heritage Site of the Golden Rock Temple at Dambulla', the report of Werner Schmid, the ICCROM Consultant. (April 2017);

- 'State of Conservation Report' and the 'Conservation Strategy for Dambulla Golden Temple', two documents submitted by the State Party to the UNESCO in response to the request of the World Heritage Committee (December 2017);
- Decision **42 COM 7B.16** of the World Heritage Committee adopted at its 42nd Session held in Manama, Bahrain, (June-July 2018); and the
- Issues that emerged at various meetings with the TA and other experts held from time to time during the past 2-3 years.

The key aspects of the management framework that were derived from the above mentioned outcomes and sources are categorized under nine sub-headings for the sake of convenience.

- a. Policy, Planning, and Management
- b. Urgently needed Restorations/ Repairs
- c. Conservation and Monitoring
- d. Maintenance
- e. Archaeological and Anthropological Research
- f. Use of the Property
- g. Interpretation and Presentation
- h. Visitor Access and Facilities
- i. Risks to the Property
- j. Community and Stakeholder Related Issues

3.2 Policy, Planning, and Management

Appointment of a new Chief Incumbent Monk by the Asgiriya Chapter of Buddhist monks recently marks the beginning of a new era in the policy-making, planning, and management of the Property after nearly one and a half decade of slow progress. The new Chief Incumbent Monk agreed to (a) establish a new Management Committee (MC) for the property; (b) expand the composition of the body of Temple Authorities (TA) within the MC; and (c) to accept the TA to be the Lead Organization of the MC. The new MC is responsible for Policy making related to World Heritage matters connected with the Property, and to ensure the implementation of the decisions pertaining to management of the Property as a World Heritage.

Although the "... purpose of a management system is to ensure the effective protection of the nominated property for present and future generations" (Article 109 of Operational Guidelines), it should not be the sole objective of the MC in developing and implementing the Management Plan for the DWHP. The MC also has a responsibility to be sensitive to the development activities taking place in the immediate vicinity as well that are carried out under the jurisdiction of the National Policy Planning Department (NPPD) and the Urban Development Authority (UDA). The Management Plan therefore prescribes an inclusive approach as such by having representatives of those two agencies in its management committee as key stakeholders to assure that local or regional land use planning or development planning activities are linked to the processes of management of the Property.

Definite roles and responsibilities of the different bodies within the MC and different stakeholders within such bodies in policy-making, planning and plan implementation, and management have been determined. The procedures of communication among the committee members and other stakeholders, and the lines of responsibilities within the MC have been established. Within a backdrop a history of mistrust prevailed for nearly one and a half decades between parties, fully developing mutual trust, respect, and understanding would naturally be a slow process and might take some time.

Issue 1. Slowness in developing mutual trust, respect, and working relationships among the members of the Management Committee

It was noted that the TA do not have an official space in close proximity to the WHP to carry-out its managerial functions as the Lead Organization of the MC. Furthermore, there is no temporary accommodation facility either for the Chief Incumbent Monk (whose permanent residence is at the Asgiriya Temple in Kandy) to stay overnight during his official visits to the Property. Absence of an official quarter with office space, meeting rooms, and facilities for temporary residence restrains the seamless functioning of the duties of the TA and that of the Chief Incumbent Monk.

Issue 2. 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.

It has also been noted that, in the past, cooperation between conservators of the DoA and the CCF had not been close enough to work together on a large conservation project like that of Dambulla as a team. The situation owes more to the differences of opinion between the two groups over the treatment techniques in wall painting and polychrome sculpture conservation than to institutional or other matters. Although the improvement of the overall institutional relationships between the two agencies in recent months has compelled them to work at together, disagreements over the methods of intervention appear to prevail. Such differences need to be resolved soon by means of professional communication to be able to operate as a single team.

Issue 3. Prevalence of professional disagreements over conservation treatment methods between conservators of DoA & CCF over the methods of intervention.

3.3 Urgently needed Restorations/ Repairs

A large number of Buddha images have suffered minor injuries over time. Certain parts of the body, such as hands, fingers, noses, ears, lips, curls of hair can be seen broken. According to Buddhist ritual practices, Buddha images that are broken do not deserve to be worshipped. In addition to damages to the images, discoloration of some of the images has impacted the aesthetics of the polychrome sculpture.

This situation has become a serious concern of the TA as it impacts the pilgrim-worthiness of the temple. Although a program was commenced to attend to the issue about an year ago, no noteworthy progress have been achieved yet.

Issue 4. Slowness in the restoration or repair of broken parts of the Buddha images

3.4 Conservation and Monitoring

As any intervention made for the protection of the heritage attributes involves the combination of several interconnected interventions, namely; conservation research, documentation, preventive conservation, remedial conservation, and monitoring, issues associated with those interventions are dealt with together in this sub-section as follows.

3.4.1 Conservation Research

In order to make judicious decisions in the treatment of wall paintings and polychrome sculptures, it is very necessary to have a thorough knowledge of the interior environmental conditions; causes and processes of deterioration; original materials and methods of application of the plasters and paints; and deterioration products and previous treatments, obtained scientific investigations. Initial investigations have shown that the paintings and sculptures are affected by following deterioration problems.

- **Detachment of plaster layers of paintings and sculpture from the support material:** paintings with the entire plaster layer have completely detached and fallen in large areas of the rock ceilings of Cave Shrines 3 and 4, and to some extent in Cave Shrines 2 and 5 due to the loosening of adherence of the ground-layer to the rock support. Similar detachment phenomenon is seen in several sculptures in Cave Shrine 2, 3, and 4, where the plaster covering has detached from their wooden core. Causes of loosening of adhesion has not been understood yet.
- **De-lamination of plaster or paint layers:** instances of separation of different layers of plaster or paint from each other due to weakening of the adhesion between layers and creating 'empty pockets' between them is found on wall paintings and sculpture in all five cave shrines. Causes of loosening of adhesion have not been understood yet.

- **Development of a whitish deposit over the painted surface:** a thin layer of a whitish deposit is found developing over the ceiling paintings, mostly in Cave Shrines 1, 3, 4, and 5, in areas that show evidence of dampness. It is suspected that this may be caused by the action of soluble salts or micro-organisms, or due to combined action of the two. The properties of the whitish material has not yet been identified.
- **Cracking of paint layer of wall paintings and surface layers of sculptures:** cracking of the paint layer that may or may not penetrate a few millimeters deep is seen in all five cave shrines. Often attributed to the adaptability of the original materials of plaster and paint to the process of differential expansion and contraction caused by the changes in relative humidity and ambience temperature this is the most prevalent deterioration phenomenon at Dambulla. Knowledge of the original materials and application methods is very necessary to develop appropriate and compatible treatment methods.
- **Flaking and pulverizing of the surface layers of paintings and sculptures:** flaking and pulverization of paint layer of wall paintings and polychrome sculpture is seen in all five cave shrines, with pulverization is more common to areas close to ground. Although the process of flaking and pulverizing, which is caused by the combined action of humidity, soluble salts, interior environment, problems inherent to original materials, and new materials introduced during later interventions that lead to the processes know as efflorescence or sub-florescence, research is necessary to develop the most appropriate treatment at each site. Knowledge of the original materials and application methods is very necessary to develop appropriate and compatible treatment methods.
- **Mud-nest building by wasps on paintings and sculpture:** building of mud-nests over wall paintings and sculptures by wasps on is a threat common in all five cave shrines. Although the wasps do not themselves destroy the paint layer in the process, the mud-nests are a serious threat as their removal by manual methods without causing damage to the paintings has become a difficult task. Scientific research is very necessary to develop a suitable method to remove the mud nests without causing damage to the painted layer.

- **Fungi growth over paintings and sculpture:** growth of several kinds of fungi has been identified in all cave shrines with more in Cave Shrines 2, especially in areas exposed to dampness. Biogenesis of fungi releases secretions that causes irreparable damage to the surface on which it grows. The spores of fungi have been identified, and research is underway to develop suitable fungicides and compatible application methods.
- **Deposition of dust on paintings and sculptures:** Deposition of dust over paintings and polychrome sculpture, though does not cause serious damage to the painted surfaces, may only affect the visual integrity and aesthetics of the paintings. Thick layers of deposited soot and dust were removed during the intervention of the CCF in 1980s and early-1990s, and the exercise was repeated sporadically at selected spots by the DoA thereafter. While enforcing of restrictions on burning oil lamps and incense sticks inside the cave shrines in the 1980s had brought an end to the generation of soot within the caves, the dust brought-in by hundreds of thousands of pilgrims and visitors contributes to the continuation of its deposition on the paintings and sculpture.
- **Discoloration of paint surfaces:** Fading of colors or development of dark patches over the paintings and sculpture can be seen in all five caves. Advanced scientific research is necessary to find out the causes of such discoloration.

It must be noted that, since the CCF ceased its interventions in cave shrines, the DoA continued its work in a limited manner; especially conducting scientific studies to understand certain factors that contribute to the deterioration of the paintings and polychrome sculptures. Those include;

- studying solutions to the problem of ingress of water into the cave shrines in collaboration with the Isotopic Hydrology Division of the Atomic Energy Authority of Sri Lanka, Geological Survey and Mines Bureau of Sri Lanka, the Department of Geology of the University of Peradeniya (completed).

- an insect-repellent experiment against mud-nesting wasps using ultrasonic methods, and an interior-environmental monitoring program using data loggers in collaboration with the University of Peradeniya (on-going); and
- studying the micro-organic activity on wall paintings and polychrome sculpture in collaboration with the Department of Microbiology of the University of Kelaniya that was mentioned above (on-going).

Although those studies have generated some useful amount of data to add to the knowledge about the deterioration processes, they still remain at basic research level. Further studies, with a more applied nature, needs to develop appropriate treatment methods to fully arrest the deterioration of the paintings and sculptures.

Issue 5. Inadequacy of data generated by basic research to develop appropriate treatment methods.

Experts of previous missions have pointed out three crucial issues that need to be addressed by new research to satisfactorily understand the phenomena of deterioration of wall paintings and polychrome sculpture in the cave shrines. This was because the state of current knowledge is not adequate to develop more appropriate and compatible treatment methods. The three problematic areas or issues that require new research to be addressed according to the experts are described below.

- Current knowledge of original materials and methods of wall paintings and polychrome sculpture is confined to; (a) information provided by the traditional artist late Jivan Naide; (b) the study of R.H. de Silva of early-1960s; and (c) the study of O.P. Agrawala and N.D. Wickremesinghe of 2002. The extreme fragility of the deteriorated painted surfaces that do not respond to known ready-made remedial treatment methods intimates the need to critically evaluate the current knowledge of the original materials and methods through new research that involves the analysis

of samples in a well-equipped conservation science laboratory of international reputation.

- Current knowledge of deterioration products such as excretions of microorganisms; soluble salts that are crystallized on or beneath the paint layers; the whitish deposits and encrustations; and protective coatings and other substances applied during previous conservation interventions is not sufficient to fully understand the deterioration phenomenon. Therefore, new research is needed to fully understand the deterioration in order to develop solutions to arrest the deterioration caused by such materials, and treat the damages already incurred.



Jeevan Naide, a hereditary master craftsmen (direct descendent of the Master Painters) of the Dambulla Cave Shrines at work during the conservation of paintings under the UNESCO-Sri Lanka Project of the Cultural Triangle

Both research studies need to be carried-out by a team headed by a trained and experienced conservation scientist at a well-equipped conservation science laboratory outside of Sri Lanka as the country does not have necessary facilities for that kind of research. Those research studies need to be done urgently as the knowledge the studies are expected to produce are a prerequisite to determine the appropriate or compatible conservation methods.

Issue 6. Inadequacy of current knowledge on the original materials and application methods of wall paintings and polychrome sculpture; and the deterioration products restraining the development of compatible conservation treatment materials and methods.

3.4.2 Documentation

Manual Graphic Documentation: To have a detailed map of the painted surfaces of wall paintings and polychrome sculpture marked with as much details of deterioration as possible is an essential prerequisite for planning and execution of any large-scale wall painting conservation project. In the past, this was achieved through the manual graphic documentation technique in which the conservators initially prepare a scaled grid plan of the wall surface with eye-copied paintings, and marked identifiable details of deterioration problems in relation to the paintings using a standard set of symbols. The CCF team that has years of experience in this documentation technique with the consent of the TA, has already completed a manual graphic documentation program in **Cave Shrine 04** and has just begun documenting Cave Shrine 02. The program intends to document all five cave shrines.

3-D Documentation (mapping) using Laser and other Scanning Methods: Although this method of documentation produces satisfactory results with painting on flat surfaces, documenting the details of paintings on rock ceilings have posed many challenges due to the undulation of the rock surface. As a solution, the ICCROM Consultant has recommended to use 3-D documentation (mapping) techniques using Laser and other scanning methods, which is commonly used for documenting wall paintings worldwide nowadays, to document the painted walls, ceilings, and polychrome sculpture at Dambulla.

To carry-out a project of 3-D documentation at Dambulla, the DoA and the CCF would need foreign collaboration. The two institutions concluded a similar project at Sigiriya WHP in 2018 in collaboration with the Otto-Friedrich University of Bamberg in Germany, and the University of Kelaniya, Sri Lanka. The same team had also successfully carried-out a similar scanning project at the *Sri Dalada Maligawa* -Sacred Tooth Relic Temple- in the World Heritage City of Kandy in 2014-2016. The Bamberg University team, if invited officially, would like to run a test scanning at Dambulla in 2019, and based on that experience, to proceed with scanning at Dambulla in 2020 and 2021.

However, due to concerns expressed at the 2nd stakeholder meeting of possible harmful effects of Laser Scanning on paintings and sculpture, the project has been temporarily put on hold until the stakeholders give their approval. An awareness program to inform the stakeholders of the harmlessness of the technique on paintings and sculpture would be required to change their opinion and proceed with the project.

Issue 7. Possible delay or cancellation of the proposed 3-D documentation project using Laser and other scanning methods due to suspicions of its harmful effects on paintings and sculpture.

Previous Protective Coatings: Proper documentations of protective coatings of previous interventions do not exist. Absence of such documentations restrains the identification of the state of conservation of the paintings and polychrome sculptures. ICCROM Consultant has recommended to map those areas using special diagnostic photographic techniques.

Issue 8. Absence of documentation of protective coatings of previous interventions restrains the conservator's ability to identify the deterioration problems.

3.4.3 Preventive Conservation

Much of the damages to ceiling and wall paintings in Cave Shrines 3 and 4 are caused by rainwater that is collected inside natural pools at the rock summit and percolates into the cave shrines through natural fissures. The percolated water as such runs all over the ceiling weakening the cohesion between the plaster and the rock, causing the plaster to detach from its rock support and fall. The process slows down during dry season, but intensifies when monsoon rains occur. The Humidity Control Engineer Ippolito Massari, an ICCROM Consultant inspected the water ingress problem in Caves 3 and 4 in 1990 and 1991, and made several recommendations. One simple solution he has recommended is "... to drill holes (diameter: ~ 10mm) at regular distances along the fissure inside the drips and to insert drainage pipes (length: ~ 0.5-1 m). His other recommendations sound more complicated than this one, and requires more resources, time and effort to implement. Massari's recommendations or any other suitable solution, if implemented

in early 1990s, several square meters of ceiling paintings that were destroyed due to 27-years of water percolation would have been saved.

Issue 9. Disregarding the recommendation of Ippolito Massari or finding any other alternative to remove percolating water from Cave Shrines 3 and 4.

3.4.4 Remedial Conservation Treatment

It must be noted also that, during the period of poor relations between the TA and the CCF, conservators of the DoA with the consent of the then Chief Incumbent Monk, had carried-out some remedial conservation treatments in a limited way. In those limited interventions, they have removed dust and grime from paint surfaces and from polychrome sculpture using mechanical methods such as brushing and scraping, and stabilized surface layers of paintings in Cave Shrine 3. Other than those limited interventions, no large scale treatment program had taken place.

The situation has contributed to accelerated deterioration of the art works in an alarming rate. Apparently, the main causes of decay could be moisture and dampness on the rock surface and in the interior environment, insect activity, and micro-organic activity. The state of preservation of the paintings and polychrome sculpture, as identified by a team of local and international experts have been described above under the **Sub-Section 3.3.1: Conservation Research**, and therefore mentioned below only in point form for easy comprehension;

- detachment of plaster layers of paintings and sculpture from the support material;
- de-lamination of plaster or paint layers;
- development of a whitish deposit over the painted surface;
- cracking of paint layer of wall paintings and surface layers of sculptures
- flaking and pulverizing of the surface layers of paintings and sculptures;
- mud-nest building by wasps on paintings and sculpture;
- fungi growth over paintings and sculpture;
- deposition of dust on paintings and sculpture; and
- discoloration of paint surfaces.

The above list shows the severity of the situation. In order to conserve the paintings and polychrome sculpture from further decay, immediate intervention by a team of conservators and conservation scientists is imperative. The team may be required to intervene with many emergency treatments, and implement preventive conservation measures as the first step, until the research programs mentioned in the **Sub-Section 3.3.1** above provide necessary information to fully develop a long-term and large-scale conservation treatment program.

The ICCROM Consultant, accompanied by a team of conservators from the DoA and the CCF, did a thorough on-site examination of the deterioration problems and performed numerous trial treatments on cleaning, consolidation, and stabilization. Based on the team's *in-situ* visual examinations and the results of the test trial treatments, he made a number of recommendations to address the deterioration of the wall paintings and polychrome sculptures. Some of his recommendations that are connected with research or preventive conservation have already been incorporated in **Sub-Sections 3.3.1** and **3.3.4** above.

Although the recommendations were submitted to the relevant State agencies in April 2017, action taken to implementation of them is too slow. As both the DoA and the CCF accept his recommendations, it is very necessary implement them as a matter of urgency.

The remedial treatment program has to be envisioned as a long-term project, as acknowledged by the ICCROM Consultant that "... good results in conservation cannot be accomplished under time pressure.". It has been roughly estimated that a medium-sized team of 8 senior and experienced conservators with a supporting staff of 10 trainee conservators and 4-6 assistants would require at least 10-12 years to implement the program. However, the DoA and the CCF have not yet made necessary administrative and financial arrangements to commence the treatment program as recommended by the Consultant. The project team would need vehicle access as close as to the temple entrance way (*Wahalkada*) to transport materials, equipment, and personnel; an enclosed project space on site ".. with basic infrastructure such as storage, office, toilets" etc. throughout the entire project duration.

Issue 10. Slowness in the implementation of the recommendations of the ICCROM Consultant on remedial conservation treatment.

Issue 11. Delay in making a administrative and financial arrangements to commence the long-term remedial conservation treatment program.

3.4.5 Trial Studies on the application of Laser Cleaning Technique to Remove Surface Accretions

Suggestion of the ICCROM Consultant to try the application of Laser cleaning technology to remove surface accretions on wall paintings and sculptures worth consideration. This suggestion has been made after learning the unsuitability of known chemical cleaning methods due to the high sensitivity of the original painting technology. However, his suggestion requires the removal of two or three samples of wall paintings in the size of 10 cm x 10 cm each and sending them to Italy to conduct preliminary tests on using Laser cleaning techniques. Although the suggestion to experiment with Laser cleaning methods to remove surface accretions is welcomed, stakeholders show reluctance to remove samples of wall paintings of the required size and send them abroad, as this can become a controversial issue. Alternatives to this suggestion have not yet been considered.

Issue 12. Delay in finding alternatives to the suggestion of the ICCROM Consultant on using Laser cleaning technology to clean wall paintings

3.4.6 Decay of Terracotta Tile Flooring inside Cave Shrines

In some areas inside the cave shrines, the terracotta floor tiles have decayed causing inconvenience to the visitor, and generating dust. Discussions to find a solution is still going on.

Issue 13. Slowness in finding solutions to the issue of tile decay.

3.4.7 Program for Monitoring the Remedial Conservation Treatments

It is a standard practice that remedial conservation treatments, once completed, are monitored by a multidisciplinary team for several years to make sure that the treatments perform or behave as intended. No multidisciplinary monitoring program has been established to this date.

Issue 14. Absence of a monitoring program at present

3.4.8 Conserving the Attributes other than those of the Five Cave Shrines that are contributing to the OUVs

Although the focus of conservation and management at Dambulla has always been on the five cave shrines, there are other attributes too that contribute to the OUVs of the property. Pre- and early-historical period cave dwellings and the ancient Buddhist monastery with a *stupa* and *Bo*-tree shrine also provides evidence to the development of ancient technology of cave making, brick-construction, and continued use of the site and its relation to the Property as the main ritual center. Heritage management policy for the property needs to take this matter into consideration, and must focus on preserving, managing, and presenting such attributes of the Property too.

Issue 15. Lack of focus on conserving and presenting all attributes that contribute to the SOUV.

3.4.9 Traditional Knowledge and Skills in Wall Painting and Sculpting Technologies

The CCF, during the early phase of its program at Dambulla, employed Jivan Naide, the only remaining and practicing descendant of the Traditional Artists of the Nilagama Guild who had been entrusted by the ancient Sinhalese kings of Kandy for the restoration and care-taking of the wall paintings and the polychrome sculptures at the Dambulla temple. The objectives were to make use of the traditional technologies of painting and sculpture for the Dambulla conservation program, and to ensure the transmission of traditional knowledge. After his demise, his son who had acquired the knowledge and skills from his father was appointed in his place. However, with the withdrawal of the CCF from Dambulla, this program of transmission of traditional knowledge and skills came to an abrupt end.

At present, there is no program to ensure the transmission of the traditional knowledge and skills in wall painting and polychrome sculpture to the next generation. As a result, those important elements of the intangible cultural heritage of the country are disappearing due to non-transmission.

Experts have suggested the need of revitalizing the knowledge and skills of those traditional technologies as a part of an intangible cultural heritage safeguarding program to assure the transmission and continuation of such traditional knowledge that would otherwise be lost to humanity forever.

Issue 16. Absence of a program to revitalize the traditional knowledge and skills in wall painting and polychrome sculpture.

3.5 Maintenance

Maintenance of the roof had been a problem for many years due to the disruptive behavior of the monkeys who cross-over the terrace from the jungle to the roof and dislocate the tiles thereon. This issue has been completely resolved by installing an electrical fence along the edge of the terrace preventing the monkeys crossing over the terrace. This action of the previous administration of the TA is highly commendable.

General maintenance of the Property has been traditionally taken care of by the TA. The maintenance works are limited only to the cleaning of the cave shrines, the main terrace area on which the cave shrines are situated, and pilgrim pathways to the shrines. These works are done by the TA at a satisfactory level. However, the TA does not have the expertise for the maintenance of the historic structures such as the roof of the verandah or the technical systems such as the interior lighting system, dusting of the sculpture etc.. The MC needs to have a plan for regular maintenance of all aspects of the functioning of the Property including those that need technical inputs as well.

Issue 17. Lack of skills, personal and an overall maintenance plan that includes all areas of the property's functions.

3.6 Archaeological and Anthropological Research

The joint settlement archaeological research program of the Postgraduate Institute of Archaeology and the CCF in the in the 1980s and 1990s in larger Sigiriya-Dambulla region brought to light a large number of settlement sites dated to the 1st millennium BC and representing the proto- and early-historical periods. Those rock shelter residences of monks with engraved drip-ledged and donor inscriptions situated in three clusters on the south-western slope of the rock too were discovered during the same project. These evidences suggest that those settlements had formed the social and economic infrastructure to sustain the early Buddhist monastery at Dambulla WHP from the 3rd century BC. Information derived from archaeological research as such adds on to the OUSV of the Property.

Another archaeological research program conducted under the UNESCO-Sri Lanka Cultural Triangle Program at the foot of the Dambulla rock has revealed a ritual precinct consisting of a stupa, *bodhi*-tree shrine, a shrine for the Buddha, a monk's chapterhouse, and other peripheral structures. It has been identified as an extension to the Dambulla main monastic complex. Those investigations have provided much information about the evolutionary history of the WHP of Dambulla in the period between AD 5th and the 13th centuries.

The continuous existence of Dambulla as an important ritual and pilgrim center suggests the prevalence of a large body of intangible cultural heritage (ICH) among the communities living in the settlements around the temple. Those include the beliefs of divine interventions in the carving of the large Buddha image out of the living rock in Cave Shrine 1; of the sacred water drip in Cave Shrine 2 as the result of a divine miracle; the two annual processions of the temple that connects all communities living in the surrounding area; and the many folk tales associated with those events. Knowledge of ICH that connects the settlements with the Temple would help to a great extent to elaborate on the SOUVs. Such information would certainly help understand the property better with new interpretations of multiple dimensions.

However, there are no archaeological or anthropological research programs to enhance the knowledge of the property that can help better understand the SOUVs.

Issue 18. Absence of a research agenda on the intangible heritage aspects of the Property that focuses on the SOUVs.

3.7 Use of the Property

The property attracts a large number of visitors. The majority of them are pilgrims from Sri Lanka and other Asian countries. Others are Sri Lankan and international visitors who are interested in the heritage values of the Property. As the needs of the two kinds differ from each other, issues connected with use of the Property are mentioned below under two sub-headings.

3.7.1 Ritual Use

Pilgrims are important kind of users as they are responsible for sustaining the 'Living Cultural Heritage' status of the property through the past two and a half millennia to the present day. They would continue pilgrimage to Dambulla, irrespective of its being a WHP or not. Therefore, the management system for the Property needs to be sensitive and conscious to their spiritual and other needs, and be aware of the needs to protect the SOUVs and the status as a WHP.

Although the lighting of oil lamps and burning of incense-sticks in front of the images of the Buddha as an offering to the Buddha is an important part of the ritual and a meritorious act for the pilgrim, it was not allowed inside the cave shrines in the 1980s to prevent deposition of soot over the painted wall surfaces; an instance of purely conservation objective overpowering an important ritual need of the pilgrim. This management decision has compelled the pilgrims to perform the ritual on the terrace area outside of the cave shrines, a poor substitute to an important age-old ritual practice, and humiliation to the piety and devotion of the pilgrim. However, casting a balance between the pilgrims' needs and the conservation and management needs is nevertheless a complicated matter, and seems that certain management decisions have been taken at the expense of pilgrims' needs.

Issue 19. Compromising pilgrims' needs in favor of conservation-management considerations

Establishment of a Tourism Management Strategy to restrict the maximum number of visitors inside a cave shrine at any one time has been recommended by the ICOMOS Reactive Monitoring Mission. Such restriction would also limit the maximum length of time a pilgrim can remain inside a cave shrine. The matter was discussed during the second stakeholder meeting, and the potential dangers to the attributes due to high visitor numbers that exceed the carrying capacity of individual cave shrine were recognized. At the same time, the difficulty in controlling the excessive numbers of pilgrims visiting on full-moon days, and the sensitivity of the issue and its socio-political dimensions was also discussed. It was revealed that no proper visitor surveys had been conducted to correlate those data with the data internal environmental studies.

Issue 20. Absence of data on visitor numbers or visitor-impacted damages to OUVs prevents making informed decisions on restricting visitor numbers as a part of a larger Tourism Management Strategy.

3.7.2 Tourism

The Property attracts a large number of local and foreign tourists a year. While there are no statistics of the number of local visitors, the number of foreign visitors visited with the entry ticket in 2018 was about 50,000. This is in addition to another 48,000 foreign visitors entered free-of-charge (Students, researchers, members of staff working in foreign missions in Colombo, and guests on invitation by state institution are admitted free-of-charge). As the TA charges an entry fee from international tourists, it is the responsibility of the MC to facilitate them to have a holistic cultural experience of the OUVs of the Property with knowledge of art and craft technologies of ancient Sinhalese, Buddhist rituals, Buddhist art, beliefs of people about the deities and their interventions with humans' affairs etc. A well designed tourism management policy and strategy should include ways and means of facilitating the tourists to feel that their expectations were fulfilled.

In order to develop a comprehensive Tourism Management Policy and Strategy, the MC needs data about tourist numbers, their expectations, available services and facilities etc. Those data should be derived from a well-designed opinion survey on tourist satisfaction. So far, no such

survey has been conducted, and without such information, it would not be possible to develop a Tourism Management Policy or Strategy.

Issue 21. Absence of a Tourism Management Policy and Strategy restrains facilitating tourists' needs.

Issue 22. Absence of data about tourists' needs and satisfaction curtails the development of a Tourism Management Policy and Strategy.

3.7.3 Tourist Misbehavior

Behavior of some tourists displaying no respect to the sanctity of the ritual space or the pilgrims is a serious issue. The incident of mid-1990's when a female tourist was photographed sitting on the lap of an image of the Buddha that resulted in washing of the image; an action that caused the loosing of the original surface paint layer, and the CCF losing its permission to carry-out its conservation treatment project. The habit of some tourists coming with inappropriate clothing, and making too much noise inside cave shrines also are acts of disrespect and misbehavior.

Issue 23. Disrespectful behavior of certain tourists destroying the sanctity of the place.

3.7.4 Policy on Flash Photography

The recommendation of the ICOMOS Reactive Monitoring Mission to "...enforce, as soon as possible, a policy prohibiting visitors from using flash photography inside the cave, as this is one of the main causes of the change in colour of the paintings." was discussed by experts and at the second stakeholder meeting. Although there is a widespread belief among museum and heritage professionals that exposure to camera flash light causes color changes in paintings, available scientific literature do not support this assumption (Amateur Photographers in Art Galleries: Assessing the harm done by flash photography by Martin H. Evans in <http://people.ds.cam.ac.uk/mhe1000/musphoto/flashphoto2.htm>; and (2012): "Snap Happy: should visitors be allowed to take photographs in galleries or does it annoy other visitors and damage artefacts?" by Atkinson, Rebecca in *Museums Journal*, vol. 112, no. 12, pp 30-33.)

However, it is the view of the MC that flash photography can be a nuisance to the pilgrim and the visitor alike, especially during high-visitation times. Sudden flashing light may disturb the concentration of the meditating devotee while a visitor's attempt to focus a camera to take a picture of another visitor may interfere with the movement of other visitors. Therefore, it is necessary to have a policy on photography, with or without the flash, inside cave shrines, and this needs to be based on an opinion survey.

Issue 24. Flash photography disturbs the pilgrims' ritual acts and other visitors'art appreciation and free movement.

3.8 Interpretation and Presentation

3.8.1 Interpreting the OUVs of the Property

Interpretation of the Property for foreign visitors was done in a limited way by the then temple authorities by giving them information about the history and the arts of the temple in printed and electronic forms. Although the Museum of Wall Paintings at Dambulla managed by the CCF is supposed to serve also as a visitor information center, very few visitors do go there. Even for the few visitors who visit the museum, it does not have facilities to provide the information relevant to the OUVs of the property to the visitor using audio-visual techniques or new media. Interpretation of the OUVs of the property; archaeological and art historical values; associated intangible cultural heritage values of the temple are not conveyed to the local visitors or the pilgrims. As a result, the OUVs of the Property remain only little known to most of its uses.

Issue 25. Inadequacy of materials and means to interpret the OUVs of the Property for visitors

3.8.2 Presenting the Property

Presentation of the Property as a site of pilgrimage or as a WHP remains poor. There is no mechanism to orient the visitor with printed information or using audio-guides to experience the OUVs of the Property. Properly designed signage system and text panels, placed strategically along the pathways and on the shrine compound can be immensely helpful to orient the visitor

to understand the Attributes and the OUVs of the Property. Due to the absence of such a system of orientation, visitors are denied the opportunity to fully understand Property.

Issue 26. Lack of an orientation using printed or electronic information for the visitor restrains the ability to fully understand the attributes and OUVs of the site.

3.8.3 Guides Services

Some foreign visitors obtain the services of guides to interpret the Property for themselves. When several guides provide their services within a cave shrine, it becomes a disturbance to the devotees who are engaged in worshipping or meditating. Echoing loud voice of guides inside a cave shrine destroys the sanctity of the sacred space. Consideration must be given to provide information in the printed form or as audio-guides or through mobile phone apps would be a better option in this regard.

Issue 27. Tour guide behavior, especially talking in loud voice, destroys the sanctity of the place, and interrupting other visitors enjoying Attributes and the OUVs of the Property.

3.8.4 Lighting System for Cave Interiors

The CCF, during its engagement in the conservation work at Dambulla before mid-1990s, installed a compatible lighting system suitable for the Property as a WHP. That system with low-intensity lamps with a dim light maintained an ambience compatible with the sanctity of the cave shrine interiors. However, due to non-maintenance of the lighting system during the period of disengagement of the CCF, it collapsed to a great extent. The system was replaced by a very incompatible lighting system using fluorescent and CFL bulbs and flood lights, installed in a manner that is very unsympathetic to the wall paintings and sculpture with hanging wires and switched fixed on art surfaces.

A proposal with a design for a new lighting system has been submitted to the TA for consideration. There is no issue, as installation of the new lighting system has been scheduled for 2019.

3.9 Visitor Access and Facilities

3.9.1 Access to the Property

There are several approaches from the foot of the rock to the cave shrines. The main approach is through the modern temple located to the east of the Dambulla rock. A second approach runs close to the CCF's Museum of Wall Paintings and through a *Bodhi*-tree terrace. Both those approaches are from the Kandy-Jaffna (A9) Road, and they converge at a point which is located at a mid-point between the foot of the rock and the plateau on which the cave shrines are located.

The approaches are laid down on the rock outcrop as pathways. Punctuated by flights of steps, they are paved with rubble. These pathways were rehabilitated by the CCF under the UNESCO-Sri Lanka Cultural Triangle Project in the early 1990s. Due to poor maintenance during the period of neglect, the rubble-laid steps have loosened at many places.

There is a third access way and the oldest that runs to the south of the rock and links the Kandy-Jaffna (A9) with the Kurunegala-Dambulla (A6) Roads as a cross road, is the oldest. It begins close to the newly excavated and conserved monastic site located to the south-west of the rock. This pilgrim pathway that is punctuated by several rock cut steps is not in use at present. An important ancient rock inscription that upholds the Attributes of the Property by revealing the history of Dambulla as a pilgrimage site is located on this access way. By abandoning this pathway deprives the visitors from seeing an important evidence that helps the visitor learning about the OUVs of the Property.

Issue 28: Abandoning an Important pathway, depriving the visitor to learn better about the OUVs of the Property.

3.9.2 Lighting along Pathways

Lighting along the pathways remains very inadequate. It has been noted that visitors find difficulties finding their way back during descent in late-evenings when it is dark, also creating a safety risk as well. This situation may negatively affect their overall visitor satisfaction too.

Issue 29: Lack of lighting along the pathways.

3.9.3 Awareness of visitors on appropriate attire, opening hours etc.

It has been noted that ignorance among some visitors of the requirements of proper attire, removal of shoes and hats before entering the sacred space, opening and closing times etc. tend to create unpleasant situations. Such incidents have the tendency to restrain the ability or opportunity for the visitor to fully appreciate the Attributes and the OUVs, and thus have an overall visitor satisfaction.

Issue 30. Lack of awareness programs to educate the visitor regarding dress-code requirements and opening hours.

3.9.4 Movement within Cave Shrines

In order to protect the wall paintings from being touched by visitors, some spaces of the cave shrines have been fenced-off. This has been done in a way that least affects the visual integrity of the cave interior. Temple Authorities might have resorted to this measure to protect the paintings due to the impracticality of employing a large number of guards for that purpose. However, the artificial fencing restrains the visitor experiencing the OUVs fully due to restricted movement within the cave space.

Issue 31. 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 OUVs.

3.10 Risks to the Property

3.10.1 Quarrying and Blasting

Although blasting and quarrying is prohibited within the buffer zone according to the Antiquities Ordinance of 1940 (Revised 1998), the Consultant in Geology from the University of Peradeniya has raised concerns over the potential dangers of such activities in rocks that are outside of the buffer zone, but are geologically connected with the rock of Dambulla underground. There is a possibility that vibrations caused by heavy blasting may travel through the geologically connected rock formations that may be strong enough to cause serious damages to the wall paintings in cave shrines. No scientific studies have yet been carried-out to establish this phenomenon and propose remedial actions to protect the Property from undergoing such a calamity.

Issue 32. Lack of scientific knowledge on the harmful effects of blasting and quarrying in rocks that are outside of the buffer zone, but are geologically connected with the Dambulla rock underground.

3.10.2 Theft or Vandalism

There was an incident in mid-1980s of breaking into the *stupa* in Cave Shrine 4 to rob treasures believed to have been enshrined inside its dome. It has taken place in the night time after the closure of the shrine. Apart from this, there has been no thefts or acts of vandalism reported at the Property. Future threats of vandalism or theft, however, cannot be ruled out as culprits becoming more and more sophisticated in their tactics and in the use of new technologies for crime, despite the deployment of guards around the clock as at present.

Issue 33. Inadequacy of technologically advanced surveillance systems installed to protect the Property from thefts or acts of vandalism.

3.10.3 Risks of Fire

Although no fire-hazards have been recorded in the past, due to the electrical wiring network of the artificial lighting system inside of cave shrines, there is a potential danger of having fires caused by short-circuiting of electric wiring. If such accident occurs, it can cause a major destruction to the elements and attributes that carry the OUV, particularly the mural paintings that might detach from rock support due to excessive heat, and the plaster-covered wooden sculptures.

Issue 34. Absence of an adequate fire hazard prevention system in place

Although wild-fires or fires caused by human action in the surrounding jungle or in the forested area on the summit of the rock have not been reported in the near past, happening of such disasters cannot be ruled out. If a fire as such occurs, it will cause irreparable damage to the OUVs and Attributes of the Property as there is no Fire Hazard Preparedness Plan for the Property.

Issue 35. Absence of a Fire Hazard Preparedness Plan

3.10.4 Natural Disasters

Although events of natural disasters such as cyclones, earthquakes or landslides have not been recorded in the past, if occurs, they could cause severe damages to the OUVs and Attributes of the WHP. While the occurrence of most of natural disasters cannot be prevented by human action, a proper Natural Disaster Preparedness Plan can help mitigate the damages.

Issue 36. Absence of a Natural Disaster Preparedness Plan

3.10.5 Terrorist Activities

Although Dambulla WHP had not been a target of terrorist attacks in the past, risks it faces of destructive terrorist activities in the future cannot be ruled out, especially in the context of past

attacks on important Buddhist places of worship such as the Sri Maha Bodhi at Anuradhapura and the Sacred Tooth Relic Temple in Kandy, incidents of vandalism against the images of the Buddha reported in recent times from different places in the country. Secondly, in the light of the recent trend of terrorist attacks being carried-out against Western or American tourists at popular tourist destinations in countries outside of Europe or America, the risk for Dambulla to be a location for such attack is always a possibility. In the absence of a system of X-Ray Security Scanning for all pilgrims and visitors to the Property with their belongings, a terrorist to carry arms, explosives or any other weapon is always a possibility.

Issue 37. Absence of a proper security screening system against terrorist activities

3.11 Community and Stakeholder Relations

There is a considerable number of families living around the property that subsist on selling goods or providing services to pilgrims or visitors. They include sellers of flowers and other materials of ritual offering; minor traders with small shops; mobile traders; and other street vendors. The Article 119 of Operational Guidelines specifies the need of the active participation of the communities and stakeholders concerned with the property as necessary conditions to its sustainable protection, conservation, management and presentation.

However, the community-stakeholder participation in the protection of OUVs of the Property has not been studied to this date. Absence of information about the relationship between the property management and the community and stakeholders, curtails the ability to understand whether there are issue that needs to be addressed.

Issue 38. Absence of research to understand the community and stakeholder issues.

Chapter 4

VISION AND AIMS OF THE MANAGEMENT PLAN

4.1 Long Term Vision

The long-term vision for the Golden Temple of Dambulla World Heritage Property is to maintain it as a model living religious site in Asia where its Outstanding Universal Values are safeguarded through effective preservation and continued use while maintaining the appropriate balance between pilgrimage and tourism where tourist could experience the site without causing disruptive impact on the pilgrims who will engage in spiritual activities.

4.2 Aims of the Management Plan

The aims of the Management Plan are to:

- promote sustainable management of the Property;
- make sure that the Outstanding Universal Values of the Property and its context are understood, protected, and sustained;
- maintain the Property as a living religious site that benefits from its status as a World Heritage Site;
- improve the infrastructure, access, and interpretation, encouraging visitors to understand, experience, and enjoy the site; and
- improve public awareness of, and interest and involvement in the heritage of the Golden Temple of Dambulla, achieving a common ownership at local, national, and international levels of the management of the Property.

Chapter 5

MANAGEMENT OBJECTIVES AND SPECIFIC LONG-TERM EXPECTATIONS

5.1 Introduction

This chapter sets out the main objectives of addressing the key issues that were identified in Chapter 3 to support and uphold the vision for the Property stated in Chapter 4. Setting out of the objectives is necessary for achieving the overall purpose of the management of the Danbulla WHP. As management objectives have been derived from the key issues, they need to be read with reference to the corresponding key issues.

5.2 Policy, planning, and management

5.2.1 *Working relationships among the members of the Management Committee*

Objective 1. To improve the mutual trust and respect among members of the Management Committee to improve working relationships to arrive at management decisions with consensus to safeguard the Attributes and OUVs of the Property.

5.2.2 *On-site official quarters for the Chief Incumbent Monk.*

Objective 2. To provide on-site office and temporary accommodation facilities for the Chief Incumbent Monk during official visits to provide his services seamlessly to ensure the protection of the Property, its attributes, and OUVs.

5.2.3 *Working relationships among conservators*

Objective 3. To improve working relationships and communication between the conservators of the DoA and CCF to carry out conservation treatments in a professional manner to safeguard the OUVs.

5.3 **Urgent Restorations/ Repairs**

Objective 4. To restore the damaged Buddha images as early as possible to a state that they can be worshiped, and thus safeguard the OUVs.

5.4 **Conservation and Monitoring**

5.4.1 ***Conservation Research***

Objective 5-a. To continue with the past research programs for several more years until conclusive evidence are found to develop solutions to arrest the problems of water ingress, insect repellence, interior-environmental conditions, and micro-biological activity.

Objective 5-b To review the existing knowledge on the original materials and methods of the paintings and polychrome sculpture.

Objective 5-c To generate new knowledge of the original materials and techniques;

Objective 5-d To study the deterioration products.

5.4.2 ***3-D Laser Documentation of Wall Paintings and Polychrome Sculpture***

Objective 6. To open a discussion on the presumed ill-effects of the 3-D documentation technologies that use Laser and other scanning methods for mapping the wall paintings and polychrome sculpture.

5.4.3 ***Mapping of Previous Protective Coatings***

Objective 7. To map the areas of previous application of protective coatings that might affect the OUVs in the long-run.

5.4.4 ***Preventive Conservation***

Objective 8. To re-evaluate the Italian Hydrology Engineer Ippolito Massari's recommendation by a team of local experts.

5.4.5 Remedial Conservation Treatment

Objective 9. To implement the recommendations of the ICCROM Consultant on the remedial conservation treatment program without further delay as it is the most central action to safeguard the OUVs.

5.4.6 Trial Studies on the application of Laser Cleaning Technique.

Objective 10. To find an alternative solutions to ICCROM Consultant's suggestion.

5.4.7 Decaying of Terracotta Tile Flooring.

Objective 11. . To obtain expert opinion on the best solution as early as possible.

5.4.8 Program for Monitoring the Remedial Conservation Treatments

Objective 12. To implement a program to periodically monitor the performance of the remedial conservation treatments as this is directly connected with the safeguarding of the OUVs.

5.4.9 Conserving all Attributes of the Property that contribute to the OUVs

Objective 13. To Conserve and manage all attributes of the Property other than those of the Five Cave Shrines that contribute to the OUVs.

5.4.10 Transmission of Traditional Knowledge and Skills in Wall Painting and Sculpting Technologies

Objective 14. To equip the younger generation with knowledge and skills in wall painting and sculpture technologies through structured training programs.

5.5 Maintenance of all conserved attributes that support the OUVs

Objective 15. To have an overall maintenance plan, implementation mechanism, and a monitoring and reporting program to assure that the Attributes and OUVs are safeguarded on a long-term basis.

5.6 Launching an Archaeological and Anthropological Research Program

Objective 16. To help the visitor know the intangible heritage elements associated with the Property; and thereby, help them understand the OUVs better.

5.7 Use of the Property: User-induced Threats to the Attributes

5.7.1 *Ritual Use, Pilgrim-induced Damage to OUVs, & Restricting Pilgrim Numbers*

Objective 17.a . To have management policies that does not compromise the ritual needs of pilgrims.

Objective 17.b. To gather data systematically on visitor numbers, negative impacts of overcrowding on OUVs.

Objective 17.c. To know the opinions of pilgrims on the imposition of restrictions on maximum number of visitors inside a cave shrine at a time, and maximum duration a visitor can spend inside a cave shrine.

5.7.2 *Tourism: Tourism Management Policy*

Objective 18. To gather data systematically through a visitor opinion survey and through expert consultations to develop a Tourism Management Policy and Strategy that will help visitors to have a holistic experience of the OUVs of the Property.

5.7.3. *Tourist Misbehaviour*

Objective 19. To mitigate incidents of tourist misbehaviour.

5.7.4 *Policy on Flash Photography*

Objective 20. To develop a policy on the use of photography with or without using the flash for the benefit of pilgrims who are engaged in ritual activity, and for visitors who enjoy the OUVs of the Property.

5.8 Interpretation and Presentation

5.8.1 *Interpreting the OUVs of the Property*

Objective 21. To develop new educational materials and means to interpret the OUVs of the Property for the visitor.

5.8.2 *Presenting the Property*

Objective 22. To develop a better information and signage system to help the visitor orient him/herself and understand the Attributes and OUVs better.

5.8.3 *Guides Services*

Objective 23-a. To mitigate tour guide misbehavior to help pilgrims' ritual activity, and other visitors' enjoying the OUVs of the property.

Objective 23-b. To produce other means of information-provision to the visitor to minimize the use of tour guides.

5.8.4 *Lighting System for Cave Interiors*

Objective 24. To have the new lighting system to be installed as scheduled.

5.9 Visitor Access and Facilities

5.9.1 *Access to the Property*

Objective 25.-a. To carry-out necessary repairs to the two pathways.

Objective 25-b. To develop the original historical pilgrim-way as the third pathway, to help the visitors better understand the OUVs.

5.9.2 *Lighting along Pathways*

Objective 26. To improve the lighting system for the pathways that enhances the OUVs.

5.9.3 ***Awareness of visitors on the appropriate attire, opening hours etc.***

Objective 27. To educate the visitor on the suitable attire and on cave shrine opening hours.

5.9.4 ***Visitor Movement within Cave Shrines***

Objective 28. To re-evaluate the interior visitor movement designed to allow the visitor to have a holistic experience of the OUVs.

5.10 **Risks to the Property**

5.10.1 ***Quarrying and Blasting***

Objective 29. to prevent the rock from vibrations caused by blasting of rocks situated away from the Property but are geologically connected to it underground to ensure that OUVs are protected from such occurring.

5.10.2 ***Theft or Vandalism***

Objective 30. To prevent acts of vandalism and theft to protect the OUVs.

5.10.3 ***Risks of Fire***

Objective 31-a. To prevent accidental fires occurring inside the cave shrines that might damage the OUVs.

Objective 31-b. To mitigate the risks of fire, if occurs.

5.10.4 ***Natural Disasters***

Objective 32. To reduce damages to visitors as well as to OUVs caused by natural disasters.

5.10.5 ***Terrorist Activities***

Objective 33. To protect the Attributes, OUVs, and visitors from terrorist attacks.

5.11 **Community and Stakeholder-Related Issues**

Objective 34. To develop community and stakeholders participation; (a) to ensure sustainable protection, conservation, management, and presentation of the OUVs; and (b) to ensure that some part of the benefits are passed on to the community.

Chapter 6

MANAGEMENT COMMITTEE AND THE MANAGEMENT FRAMEWORK FOR THE IMPLEMENTATION OF THE MANAGEMENT PLAN

6.1 Temple Authorities

As the Golden Temple of Dambulla is an active place of Buddhist worship that attracts thousands of pilgrims from all parts of the country and from abroad every day of the year, the ritualistic aspects with an immense intangible cultural heritage, Buddhist monks of the temple have an enormous role to play in the facilitation and management of the ritual activities. In Sri Lankan culture, this responsibility has been traditionally entrusted to the Buddhist monks of the temple. The immense authority that has been granted by ancient kings to the monks throughout history has been an essential part of Sri Lanka's traditional monastic management system.

Accordingly, the Chief Incumbent Monk of the Temple, Chief Registrar Monk of the Asgiriya Chapter, and the Custodian Monk of the Temple have been recognized as the Temple Authorities of the Property. This recognizes, not only the traditional position of the monks as the leader of the temple, but also their position as the legal incumbents and custodians of the temple.

6.2 Golden Temple of Dambulla World Heritage Management Committee

A Management Committee was established through stakeholder consultations to manage the Property in par with standards set out by the Operational Guidelines of the World Heritage Convention. It represents the Temple Authorities and state agencies that are responsible for the protection of the Property and the peripheral area. The composition of the Committee is given below.

- Chairperson:** Chief Incumbent Monk
- Members:** Chief Registrar Monk of the Asgiriya Chapter
Custodian Monk of Dambulla Temple
Secretary, Lime Ministry responsible for Cultural Affairs
Director General, Department of Archaeology
Director General, Central Cultural Fund
Director General or Representative, Urban Development Authority
Director General or Representative, National Physical Planning Dept.
Government Agent or Representative, Matale District
Divisional Secretary, Dambulla
Assistant Commissioner of Buddhist Affairs, Matale District
Mayor, Dambulla Municipal Council
Secretary, Lay-Committee of the Temple (*Dayaka Sabhawa*)

Meetings of the Management Committee: Meetings of the Management Committee will be held with the Chief Incumbent Monk as Chair. Decisions taken at the meetings will come into effect only after such decisions are endorsed in writing by the Chief Incumbent Monk. In case if the Chief Incumbent Monk is not available to chair a meeting, the Chief Registrar Monk of the Asgiriya Chapter or the Custodian Monk of Dambulla Temple will Chair the meeting. Decisions made at meetings not chaired by the Chief Incumbent Monk will come into effect only after such decisions are endorsed in writing by the Chief Incumbent Monk.

Term of Office of the MC: The Committee will have to be re-established once in every three-years.

Meeting Frequency: Meetings of the Committee will be held once every two months.

Line of Reporting: The Committee Reports to the line-ministry of Cultural Affairs.

6.3 Site Manager

In concurrence with the Temple Authorities, the DoA will appoint a full-time in-residence Site Manger. On the advice of the Chief Incumbent Monk as the Chairperson of the Management Committee, the Site Manager will;

convenes meetings of MC, and maintain its minutes.

coordinates and facilitate activities pertaining to painting conservation, maintenance, pilgrim & visitor Mgt. and physical development.

facilitates meetings of Operational Teams (Unit D)

prepares reports required by the World Heritage system, eg. periodic reports, and state of conservation reports etc.

Line of Reporting: Site manager reports to the DoA and the MC.

6.4 Advisory Services

In order to provide professional advice to the Management Committee on special disciplines, a board of experts will be appointed from the following fields;

Architectural Conservation

Wall Painting Conservation

Archaeology & Anthropology

Geology & Applied Sciences (Micro-biology, Entomology,
Environmental Sciences)

Conservation Science & Archaeological Science

Their Responsibility is to Provide advice to the MC on matters pertaining to preservation and management of the Property. The experts report to Chairperson of the MC, which is the Chief Incumbent Monk. The Advisors will Attends meetings of MC on invitation only

6.5 Heads of Operational Teams

There will be six operational teams of professionals who will implement the decisions as guided by the MC. They are appointed by the DoA in concurrence with the Temple Authorities. The Head of the six operational teams will report to the Site Manager.

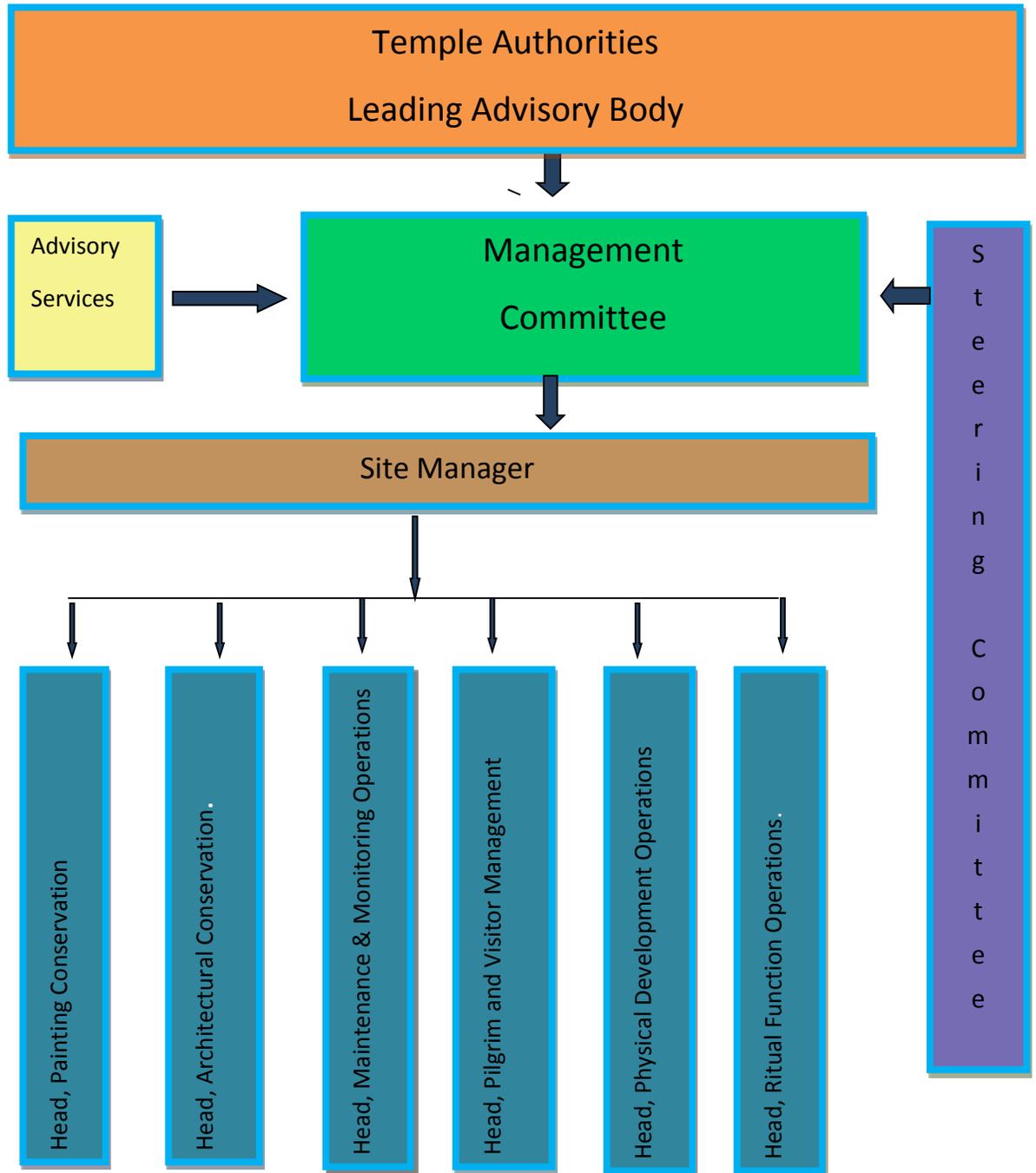
6.6 Steering Committee

In addition to these five units that are directly responsible for the management of the Property, there is also a **Steering Committee** composed of eminent personalities whose interest falls within world heritage matters, tourism, sustainable development etc. The Steering Committee will be called-in by the Secretary of the line ministry to maintain a dialogue with the Management Committee when necessary. Appointing members to the Steering Committee is in the process.

6.7 Consent and Commitment of the Stake Holders

In order to have the formal consent and commitment at all levels and have a partnership approach to long-term management of the Dambulla WHP, endorsement of all the bodies and individuals responsible for the implementation and undertaking the activities of the Management Plan will be obtained. The relevant government departments, agencies and institutions will be requested to incorporate the objectives of this Management Plan into their relevant planning guidelines and policies.

Golden Temple of Dambulla Management Framework



Chapter 7

MONITORING AND REVIEWING

Monitoring and reviewing of the implementation of the Management Plan will be carried out as follows:

The Site Manager will prepare bi-monthly progress reports that cover the work carried-out in all areas of the management of the Property and submit them to the DWHC for review. The Committee will prepare a suitable format for the preparation of Management plans.

The DWHC will review the progress reports with a view that all conservation and management activities carried-out are in compliance with the primary objective of safeguarding the Attributes of the Property and its OUVs.

The DWHC will evaluate whether the work carried out during the period under review is in accordance of its sort-term, mid-term, and long-term work plans, and that whether work targets have been achieved.

In areas where progress has been slow, the DWHC will review the work plans, analyze the reasons for any failures, and to set new work targets.

DWHC will also review the overall direction of the Management Plan in response to the changing needs and priorities during its quarterly meetings.

The Management Plan will be revised every seven-years.

Chapter 8

PROGRAM OF ACTION

The vision and objectives set out under **Sections 4.0** and **5.0** will be achieved by means of several Actions. Implementations of those Actions will require the participation of a variety of stakeholders and partners who are involved in the management of the Dambulla WHP.

The present chapter on Program of Actions outlines the actions; identifies the human and financial resources needed; the stakeholders responsible for delivery; key partners for its implementation; and the time scale for completion.

Time scales for completion are defined as follows;

Within Plan Period

- Immediate : within 1 year
- Short term : (2-4 Years)
- Medium – term : (4-7 years)

Beyond the Plan Period

- Long term : 7+ years

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
8.1 Policy, planning, and management				
<i>Objective 1. To improve the mutual trust and respect among members of the Management Committee to improve working relationships to arrive at management decisions with consensus to protect the Attributes and OUVs of the Property.</i>				
8.1.1 Initiate discussions among the members of the MC as often as possible on issues; make discussions open and transparent.	None	TA DoA CCF	None	Immediate

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
<i>Objective 2. To provide on-site office and temporary accommodation facilities for the Chief Incumbent Monk during official visits to provide his services seamlessly to ensure the protection of the Property, its attributes, and OUVs.</i>				
8.1.2 Construct a new building for the purpose on a suitable premises	Funded by CCF	DoA CCF	NPPD UDA	Immediate
<i>Objective 3. To improve working relationships and communication between the conservators of the DoA and CCF to carryout conservation treatments in a professional manner.</i>				
8.1.3 Initiate professional meetings between conservators of both institutions to develop amicable relationship between them	None	DoA CCF	None	Immediate
8.2 Urgent Restorations/ Repairs				
<i>Objective 4. To restore the damaged Buddha images as early as possible to a state that they can be worshiped, and thus safeguard the OUVs.</i>				
8.2 Expand the on-going restoration program by increasing the number of restorers by adding 04 more to the team.	Salaries and allowances	CCF	None	Immediate
8.3 Conservation and Monitoring				
8.3.1 Conservation Research				
<i>Objective 5-a. To continue with the past research programs for several more years until conclusive evidence are found to develop solutions to arrest the problems of water ingress, insect repellence, interior-environmental conditions, and micro-biological activity.</i>				
8.3.1 Renew previous MoUs for research collaboration with local universities continue them for another research cycle.	Research funding by CCF	DoA	Local universities with MoUs	Immediately

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
Objective 5-b <i>To review the existing knowledge on the original materials and methods of the paintings and polychrome sculpture.</i>				
Assign a Conservation Scientist to do a literature review of existing knowledge on original painting & sculpting materials and techniques	Funds from CCF to pay Conservation Scientist	DoA CCF	----	Immediately
Objective 5-c <i>To generate new knowledge of the original materials and techniques</i> Objective 5-d <i>To study the deterioration products.</i>				
Assign a Conservation Scientist for a 4-month research project to collect samples of materials from paintings and deterioration products, and analyse them at a well-equipped Conservation Science laboratory (in a foreign country).	Funds from CCF to send the scientist to a foreign laboratory.	DoA CCF TA	Foreign museum laboratory	Short-term
8.3.2 3-D Laser Documentation of Wall Paintings and Polychrome Sculpture				
Objective 6. <i>To open a discussion on the presumed ill-effects of the 3-D documentation technologies that use Laser and other scanning methods for mapping the wall paintings and polychrome sculpture.</i>				
Hold a forum with an invited team of scientists on the effects of 3-D Laser mapping technology on wall paintings	Funds from CCF to hold a half-a day forum	TA DoA CCF	Selected Local universities	Immediately
8.3.3 Mapping of Previous Protective Coatings				
Objective 7. <i>To map the areas of previous application of protective coatings using IR & UV documentation methods that might affect the OUVs in the long-run.</i>				
Commence an IR-UV documentation program in partnership with an agency that has the technology.	Funds from CCF to pay the agency	DoA CCF		Short-term

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
8.3.4 Preventive Conservation				
Objective 8. <i>To re-evaluate the Italian Hydrology Engineer Ippolito Massari's recommendation by a team of local experts.</i>				
Appoint a committee of experts to re-evaluate Massari's recommendations, and propose a solution to the water ingress problem.	Funds from CCF to pay the experts	DoA CCF	Selected Local universities	Short-term
8.3.5 Remedial Conservation Treatment				
Objective 9. <i>To implement the recommendations of the ICCROM Consultant on the remedial conservation treatment program without further delay as it is the most central action to safeguard the OUVs.</i>				
Commence a conservation treatment program with a team of senior conservators from the DoA and CCF	Cost of chemicals and consumables from DoA and CCF	DoA CCF	-----	Long-term
8.3.6 Trial Studies on the application of Laser Cleaning Technique.				
Objective 10. <i>To find an alternative solutions to ICCROM Consultant's suggestion.</i>				
Appoint a team of experts to discuss the matter and submit proposals for future action.	Cost of experts meetings from CCF	TA DoA CCF	Local universities	Immediate
8.3.7 Decaying of Terracotta Tile Flooring.				
Objective 11. <i>To obtain expert opinion on the best solution as early as possible.</i>				
8.3.8 Program for Monitoring the Remedial Conservation Treatments				

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
Objective 12. To implement a program to periodically monitor the performance of the remedial conservation treatments as this is directly connected with the safeguarding of the OUVs.				
Set-up a joint team of conservators from DoA and CCF to design a periodic monitoring program and implement it	None	DoA CCF	-----	Long-term
8.3.9 Conserving all Attributes of the Property that contribute to the OUVs				
Objective 13. To Conserve and manage all attributes of the Property other than those of the Five Cave Shrines that contribute to the OUVs.				
Set-up an archaeological and architectural conservation program to conserve and maintain all caves and rock shelters on the Dambulla rock with evidence of past human occupation; the Somawathi monastic site, and the ancient pathway.	None	DoA CCF	-----	Long-term
8.3.10 Transmission of Traditional Knowledge and Skills in Wall Painting and Sculpting Technologies				
Objective 14. To equip the younger generation with knowledge and skills in wall painting and sculpture technologies through structured training programs				
Organize a training program on traditional painting and sculpting technologies for young students	Funds and resources from the DoA & CCF	DoA CCF	-----	Long-term
8.4 Maintenance of all conserved attributes that support the OUVs				
Objective 15. To have an overall maintenance plan, implementation mechanism, and a monitoring and reporting program to assure that the Attributes and OUVs are safeguarded on a long-term basis.				

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
Set-up a maintenance team, provide them training with knowledge and skills to maintain a heritage site	Resources of the DoA	TA DoA	-----	Long-term
8.5 Launching an Archaeological and Anthropological Research Program				
Objective 16. <i>To help the visitor know the intangible heritage elements associated with the Property; and thereby, help them understand the OUVs better.</i>				
Produce interpretive and information material in print and electronic formats about the intangible cultural heritage associated with Dambulla	Resources of the DoA and CCF	TA DoA CCF	-----	Short-term
8.6 Use of the Property: User-induced Threats to the Attributes				
8.6.1 Ritual Use, Pilgrim-induced Damage to OUVs, & Restricting Pilgrim Numbers				
<p>Objective 17.a . <i>To have management policies that does not compromise the ritual needs of pilgrims.</i></p> <p>Objective 17.b. <i>To gather data systematically on visitor numbers, negative impacts of overcrowding on OUVs.</i></p> <p>Objective 17.c. <i>To know the opinions of pilgrims on the imposition of restrictions on maximum number of visitors inside a cave shrine at a time, and maximum duration a visitor can spend inside a cave shrine.</i></p>				
Establish a research project in collaboration with local universities to study over a period of time the visitor opinions and visitor induced harmful effects on the paintings and sculpture	Resources of the DoA and CCF	DoA CCF	-----	Long-term
8.6.2 Tourism: Tourism Management Policy				
Objective 18. <i>To gather data systematically through a visitor opinion survey and through expert consultations to develop a Tourism Management Policy and Strategy that will help visitors to have a holistic experience of the OUVs of the Property.</i>				
Assign a multidisciplinary team of heritage tourism experts to develop a Tourism Management Policy after	Resources and funds to conduct	DoA	SLTDA UDA	Mid-term

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
conducting a survey to know visitor and stakeholder opinions.	surveys and meetings	CCF	NPPD	
8.6.3 Tourist Misbehaviour				
Objective 19. To mitigate incidents of tourist misbehaviour				
Appoint a heritage communication specialist or a team of specialists to develop information materials in print and electronic formats to educate tourists on appropriate behaviour at the site.	Resources and funds from DoA and CCF	DoA	SLTDA	Immediate
8.6.4 Policy on Flash Photography				
Objective 20. To develop a policy on the use of photography with or without using the flash for the benefit of pilgrims who are engaged in ritual activity, and for visitors who enjoy the OUVs of the Property.				
Appoint a team of experts to develop a policy on photography inside the cave shrines.	Funds to pay for experts.	DoA	-----	Short-term
8.7 Interpretation and Presentation				
8.7.1 Interpreting the OUVs of the Property				
Objective 21. To develop new educational materials and means to interpret the OUVs of the Property for the visitor.				
Appoint a heritage communication specialist or a team of specialists to develop interpretive means and materials to convey the OUVs to the visitor.	Funds from CCF	DoA CCF	SLTDA	Short-term

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
8.7.2 Presenting the Property				
Objective 22. <i>To develop a better information and signage system to help the visitor orient him/herself and understand the Attributes and OUVs better.</i>				
Appoint a heritage communication specialist or a team of specialists to develop a signage system to orient the visitor within the Property.	Funds from CCF	DoA CCF	SLTDA	Short-term
8.7.3 Guides Services				
Objective 23-a. <i>To mitigate tour guide misbehavior to help pilgrims' ritual activity, and other visitors' enjoying the OUVs of the property.</i>				
Conduct programs to educate tour guides on proper behaviour. Conduct training programs for tour guides on the OUVs.	Resources in the DoA and CCF	DoA CCF	SLTDA	Long-term
Objective 23-b. <i>To produce other means of information-provision to the visitor to minimize the use of tour guides.</i>				
Appoint a heritage communication specialist or a team of specialists to develop information materials in print and electronic forms on the art and archaeology of the site for the visitor	Resources from the DoA and CCF	DoA CCF	SLTDA	Short-term
8.7.4 Lighting System for Cave Interiors				
Objective 24. <i>To have the new lighting system be installed as scheduled. (on-going project; no issues)</i>				
8.8 Visitor Access and Facilities				
8.8.1 Access to the Property				
Objective 25.-a. <i>To carry-out necessary repairs to the two pathways.</i>				

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
Objective 25-b. To develop the original historical pilgrim-way as the third pathway, to help the visitors better understand the OUVs.				
Commence repair work.	DoA resources	DoA	-----	Immediate
8.8.2 Lighting along Pathways				
Objective 26. To improve the lighting system for the pathways that enhances the OUVs.				
Prepare pathway lighting system plan and implement it.	Funds from CCF	DoA	-----	Medium-term
8.8.3 Awareness of visitors on the appropriate attire, opening hours etc.				
Objective 27. To educate the visitor on the suitable attire and on cave shrine opening hours.				
Prepare educational materials in the print and electronic formats to be dispersed among tourists free-of-charge	Resources at DoA	TA DoA	-----	Short-term
8.8.4 Visitor Movement within Cave Shrines				
Objective 28. To re-evaluate the interior visitor movement designed to allow the visitor to have a holistic experience of the OUVs.				
Employ a heritage visitor management specialist to prepare a plan on interior visitor movement.	Funds from CCF	DoA CCF	-----	Short-term
8.9 Risks to the Property				
8.9.1 Quarrying and Blasting				
Objective 29. to prevent the rock from vibrations caused by blasting of rocks situated away from the Property but are geologically connected to it underground to ensure that OUVs are protected from such occurring.				

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
In collaboration with specialist institutions, carry-out a comprehensive investigation on blasting of rocks that are geologically connected with the Dambulla rock	Funds from CCF	DoA CCF	GSMB and Univ of Peradeniya	Long-term
8.9.2 Theft or Vandalism				
Objective 30. To prevent acts of vandalism and theft to protect the OUVs.				
Prepare a security and surveillance plan	Funds from the CCF	TA DoA	Sri Lanka Police	Short-term
8.9.3 Risks of Fire				
Objective 31-a. To prevent accidental fires occurring inside the cave shrines that might damage the OUVs.				
Objective 31-b. To mitigate the risks of fire, if occurs				
Develop a fire-safety program.	-----	TA DoA	-----	Short-term
8.9.4 Natural Disasters				
Objective 32. To reduce damages to visitors as well as to OUVs caused by natural disasters.				
Develop a natural disaster preparedness plan.	-----	DoA	-----	Short-term
8.9.5 Terrorist Activities				
Objective 33. To protect the Attributes, OUVs, and visitors from terrorist attacks.				
Expand the electronic surveillance system; and Study the possibility of installing x-ray scanning system at entrance.	Funds from CCF	DoA	Ministry of Defence	Long-term

Objective and Supporting Action	Resources Needed	Stakeholders Responsible for Delivery	Key Partners	Timescale for Completion
Objective 34. To develop community and stakeholders participation; (a) to ensure sustainable protection, conservation, management, and presentation of the OUVs; and (b) to ensure that some part of the benefits are passed on to the community.				
Set-up a committee of experts to study and develop a plan for community and stakeholder participation, sustainable protection of the site, and distribution of benefits to community and stakeholders.	Funds from CCF to cover costs of experts' study	DoA	Local universities	Long-term