

STATE OF CONSERVATION REPORT

PETRA WORLD HERITAGE SITE



Forward

Acronyms

DoA	Department of Antiquities
FAO	Food and Agriculture Organisation
JICA	The Japan International Cooperation Agency
ICOMOS	International Council for Monuments and Sites
IMP	Integrated Management Plan
IUCN	International Union for Conservation of Nature
MoTA	Ministry of Tourism and Antiquities
MoU	Memorandum of Understanding
NGO	Non-governmental Organization
OUV	Outstanding Universal Value
PAP	Petra Archaeological Park
PDTRA	Petra Development and Tourism Region Authority
ToR	Terms of Reference
UNESCO	United Nations Education, Science and Culture Organization
WHC	World Heritage Committee
WHS	World Heritage Site

Petra World Heritage Site - Property Data

State Party

The Hashemite Kingdom of Jordan

Identification Number

326

Year of inscription on the List of World Heritage

1985

Type of Property

Cultural

Geographic Information (lat/long)

30° 19'50"N, 35° 26'36"E

Area

264 square kilometers

Government Institutions Responsible for the Property

Ministry of Tourism and Antiquities (MoTA), Department of Antiquities (DoA), Petra Development and Tourism Region Authority (PDTRA – management jurisdiction) Located in the Governorate of Ma'an, Jordan

Criteria

(i) (iii) (iv)

Previous Committee Decisions

1994, 1995, 1996, 1997, 1998, 2000, 2001, 2010, 2011, 2013 , 2015 , 2017

Previous monitoring missions

2000: ICOMOS Mission

2004: UNESCO Mission

2009: UNESCO Technical Expert Missions

2010: World Heritage Centre/ICOMOS Reactive Monitoring Mission

2017: World Heritage Centre/ ICOMOS/IUCN

Response to the Main Issues raised by the Reactive Monitoring Mission

2017

Main issues raised by the Reactive Monitoring Mission were as follow:

- Institutional Framework and Management Structure
- The Vision for Petra's Future and Territorial Planning
- Development Plans in the Buffer Zone and Larger Setting of Petra
- Integrated Management Plan (IMP)
- Designation of the PAP as a Natural Protected Area
- Conservation and Archaeological Excavations at the Property
- Archaeological Research and Coordination
- Animals within the Property
- Water Management and Flash Floods
- Rock Falls
- Intangible Heritage Values
- Local Communities
- Child Labour and School Dropouts

Within this report, each issue will be clarified thoroughly.

- **Institutional Framework and Management Structure**
 - The Department of Antiquities (DoA) and Petra Development & Tourism Region Authority (PDTRA) along with the coordination of the UNESCO Amman Office invited the governmental stakeholders to discuss main issues and share recommendations and suggestions to be consider while preparing the new Integrated Management Paln (IMP).
 - A four years Memorandum of Understanding (MoU) between DoA and PDTRA is currently being drafted and shall be signed soon.
- **The Vision for Petra's Future and Territorial Planning**

Opened in 1983; **The Crown Plaza Hotel**, was the first hotel in the Petra region to offer five-star level accommodations and services. It is owned by Jordan's Public Social Security Corporation and currently managed by the InterContinental Hotel Group (IHG), the hotel was temporarily closed in 2012. Several meetings were held during and after the reactive mission's visit, and another meeting between a designer and a commissioner board, where the methodology of the renovation was discussed. The final dicion concluded that there will not be any expansion on the hotel's plans.

Recently, the Prime Minister sent a letter permitting the renovation and rehabilitation of the hotel's plans, therefore, limiting the work on the existing

building and chalets only, with a minimal physical and visual impact on the site, in order to preserve the Outstanding Universal Value (OUV) of the site, according to what was agreed upon with the reactive mission in their last visit. The Crown Plaza Hotel's renovation proposal, subject to the following important conditions:

- A proposal for water harvesting systems in the project area shall be presented before any field activities start.
- All the activities through the renovation will be supervised and monitored by PDTRA and DOA staff.
- Environmental Impact Assessment (EIA) was requested to be submitted by the Hotel before starting any renovation.
- Heritage Impact Assessment (HIA) was requested to be submitted by the Hotel before starting any renovation.
- Day to day monitoring through PDTRA staff, where they have the full authority to halt any work that could negatively impact the OUV.

In conclusion, there will not be any visual impact on the site due to the previously intended level of renovation.

The eco-tourism village project:

- The PDTRA have embarked on an ecologically sustainable project to enhance the tourism services, The Eco-Lodge project is still in its design development phase, and is planned to be constructed in the Petra WHS Buffer Zone, near the popular visitor site of Al Beidha.
- An archaeological survey was conducted by PDTRA and DOA staff, resulted that there is no available evidence on the surface and ground.
- Re-studying the specifications and tender items of the remaining and external work of the eco-tourism village, in a way that can be environmentally sustainable, using reversible materials, and harmonious with the adjacent atmosphere with a minimum visual pollution.
- PDTRA consulted Ammar Khammash¹; a heritage and architectural specialist, about the project, hence he provided his professional recommendations and advices to manage the situation.
- Serious attempts to set up new scenarios that expands the areas for residential land use and other services to reduce the pressure on the current community nodes.

¹ Ammar Khammash is a Jordanian architect started in the late 1980's. His early projects focused on restoration and renovation of historic sites and interventions within cultural and natural heritage sites. Later, his projects started ranging from master planning and urban design to sustainable tourism and destination design. Projects include hotels and lodges, restaurants, museums and interpretation centers, institutional and educational buildings, residential projects and interior design.

- Take the necessary studies and measures (EIA, archaeological Survey, HIA....) to reduce the visual and environmental impacts of ongoing projects.

The cultural village project:

Re-studying the specifications and tender items of the remaining external facades and the roofs of the cultural village to minimize the negative visual impact by:

- Reducing the interlock tiles to a natural sand.
- Removing the parking area from inside the PAP boundaries to an area outside within the project's premises.
- Using a more local materials for the roofs; such as mud and single aggregates.
- Changing the pavement of the outside courtyards using the valley's gravels.
- Using the gabion stiles for the foundation and cover it with the local stone.
- Re-locating the solar panels to an invisible area of the park.
- Similar to the Eco-village project, consulting a heritage and architectural specialist, Ammar Khammash about the project.

- **Development Plans in the Buffer Zone and Larger Setting of Petra**

- Canceling the two main projects from the Investment Map-Petra Region which are the giant wheel and the cable car.
- During the preparation process of the Integrated Management Plan, the steering committee agreed on signing an MoU between the DOA and PDTRA to review and assist the decision making process for any intervention inside the site and the buffer zone before any implementation . The MoU is currently in its last editing phase and shall be signed soon before the end of May 2018.
- The State Party affirms to inform the World Heritage Committee for any planned constructions within Petra region which may affect the OUV of the property of Petra before making any action or decision.

•Integrated Management Plan (IMP)

Currently, an Integrated Management Plan (IMP) is being finalized and will be submitted by May 2018. The IMP have been prepared jointly by the UNESCO Amman Office and the technical team drawn from the staff of the DoA and PDTRA. It focuses on key issues concerning the management of Petra Archaeological Park. Its main center of attention is the collaboration with all involved stakeholders, therefore, extensive meetings were held in regards of 14 advisory groups:

1. Local community partnerships
2. Law and legalities
3. Heritage Conservation
4. Archaeology
5. Geology and hydrology
6. Infrastructure management
7. Nature conservation
8. Visitor services, interpretation and museums
9. Tourism
- 10.Planning and land use
- 11.Risk management
- 12.Sustainability and eco development
- 13.Education
- 14.Data management .

The extensive meetings resulted in a Policy Framework with 27 necessary management actions, ten of which are considered of high priority. As soon as the IMP is officially endorsed, its implementation should be coupled with legal provisions and reinforced with adequate policies, hence, the MoU between DoA and PDTRA shall be signed soon.

The action plan concentrates on key concrete targets that have been identified, together with their appropriate milestones and performance indicators, key players, Sustainable Development Goals, cost estimates and an indication of the financial feasibility, potential fundings, and timetable for the implementation of the IMP, which will represent critical tools for the immediate implementation of the IMP.

The IMP acknowledges the shortfall in funding, and suggests different means of funding for different actions, depends on stakeholders involved. The management programme outlined in the IMP includes a number of priority actions to be achieved within a 5 year planning timeframe, with priority set on

policies of category A and B. Through the Action Plan, the IMP has been conceived as a planning tool to guide the management of the site for the coming 5 years and direct funding into priority actions.

The Memorandum of Understanding:

The MoU -that will be signed soon- defines the roles and responsibilities of the DoA and the PDTRA in regards of protecting Petra and its OUV. Where it is wise to mention that the MoU includes establishing a joint technical committee that will facilitate decision making by both parties.

- [Designation of the PAP as a Natural Protected Area](#)

The PDTRA is in process of announcing the PAP as a Natural Protected Area, after obtaining an approval from the Ministry of Environment. Designating the PAP as a Natural Protected Area will be an adequate tool for the protection and conservation of Petra's natural and cultural resources and the protection of its setting, and will contribute to extending the tourists' stay in the site.

PDTRA is currently in the process of preparing an MoU with the Ministry of Environment, in order to elaborate on a specific monitoring programme for the natural values of the Natural Protected Area.

- [Conservation and Archaeological Excavations at the Property](#)

The IMP covered all issues related to heritage conservation of the site, such as improving the technical staff's capacity as well as the regulations of conservation and methodology, therefore PDTRA is intending to establish a conservation centre to improve its staff's capacity for the preventive conservation of the site.

Based on the Antiquities Law and the regulations for archaeological projects in Jordan; the DoA is the sole responsible for permitting any excavations in the site; which includes all the conservation and excavations projects in Petra, on the other hand the DoA and PDTRA have an assessment plan for all the archaeological missions in Petra. However the MoU stated that the review for any new proposal for excavation or conservation project will be done by both DoA and PDTRA, where the official permission will be issued by the DoA.

In addition, PDTRA will establish a maintenance and restoration center to rehabilitate and train the technical staff to carry out maintenance and

restoration works within the archaeological site, in cooperation with local and non-local expertise in Jordan.

- **Archaeological Research and Coordination**

One of the key aspects the IMP focuses on is how to optimize the archaeological research in Petra. A number of essential actions directly handle this topic, such as:

- Preparing a forward-look plan for research, excavation and conservation priority areas.
- Undertaking regular reviews of archaeological research or excavations taking place at the site.
- Enforcing new antiquities regulations concerning excavation permits, conservation and publication of findings.
- Improving data sharing of conservation practices, materials and techniques and monitor efficacy of interventions; where it is important to build in information from past projects and research into the GIS data management system.
- Identifying priority areas for preventive conservation and conservation and attract funding to priority projects.
- Establishing a guidance framework for conservation (levels of intervention) and appropriate methodologies.
- Establish a permanent committee with expert members from PDTRA and DoA to maintain a strategic view on excavations and conservation at Petra ; reviewing the projects proposals submitted to Jordan government.

- **Animals Within the Property**

An awareness programs for both animal owners and school students was conducted. Additionally, strategies have been developed for dealing with animals, in cooperation with the Food and Agriculture Organisation (FAO), the Ministry of Agriculture, the Association on of Veterinary Doctors, The charity for the working animals of the world (SPANNA) and the University of Science and Technology.

Under the patronage of HRH Princess Alia, a free medical day was held for all animals with all previously mentioned entities where university students were involved, in addition, a new veterinarian was appointed at the PDTRA.

Moreover, the BROOK clinic was reopened and the work is being monitored.

Additional tools were also added, such as special regulations for animal owners were drafted in cooperation with the University of Science and Technology (The Veterinarian Division), as well as another program in cooperation with Greater Amman Municipality to manage stray dogs.

In addition, the PDTRA will establish a dedicated fund from its revenue for social welfare activities that support vulnerable members of the community and those in greatest need in the area .Additionally, PDTRA will work with the Horse Owners Association to identify key issues relating to the horse carts (animal welfare, dust, impact of wheels, and risk to tourists who are walking) and establish ways in which these risks can be reduced or eliminated.

Other measures have been taken, such as:

- The use of alternative transportation such as Golf carts in the Siq is being considered.
- Identify and clearly signal areas that are too fragile for animals to access (including wearing sandstone or ancient paved surfaces) and establish regulations for animals while they are on the site.
- Identify specific trails allowed for donkeys (e.g. Beidha area) and based on this determine number of donkeys that can be permitted on site at any one time (carrying capacity) and the functions that they will undertake.
- Create alternative job opportunities to current donkey owners

- **Water Management and Flash Floods**

- Rehabilitating some terraces and regular checking of the dams inside and outside the site, in addition to reactivating the early warning system.
- Continuing the construction of the retaining walls, nonetheless, after the hydrological studies of the sites are conducted and the archaeological surveys are done, taking into consideration surrounded landscape .

- **Rock Falls**

Removing unstable block in the Treasury facades

After the documentation works that took place in June 2018, the mission's implementation works began over 12 continuous days, the team consisted of 10 workers from the Nabataean Capital Association Committee, and one supervisor from the Siq Stability technical committee, the work included mitigation methods ,cleaning, loose remove, water diversion, debris terracing,

dislodgment and block removal, in addition to updated documentation reports.

Siq Stability - Phase II

- Training local workers on debris cleaning procedure: an introductory training on the methodology of cleaning and managing the debris on the edges and slopes of the upper sides of the Siq was given to the involved team. The training was carried out to the involved staff.
- Geoinformatics and Debris Removal Database, Debris Removal Intervention Database: this includes data about the Siq's different sections, physical information about their size, location, slope nature, soil cover, vegetation cover, archaeology, etc. Furthermore, data about the different types of interventions made on each section are collected and being entered to the database. The degree of satisfaction for each intervention is evaluated for scheduling of next maintenance and repair.
- Geographic Information System (GIS): To aid in the Siq Stability Project data management, various approaches using Geographic Information Systems (GIS) have been used to document the different data levels to identify the spatial distributions of relative Siq slope instability and slope management. This GIS presents a systematic geodatabasing and evaluation of the common slope instability mitigation approaches applied in the Petra Siq. The goal of this system is to provide an assessment of relative slope mode behavior and mitigation failure potential in order to ascertain which mitigation measure can be the most effective in risk reduction at the identified unstable slopes in the Siq management context.
- At the beginning of the survey works, PDTRA conducted work in the field as following:
 - 1- Taking a general overview on the work area to divide the sections - as accurate as possible - according to the common geological characteristics.
 - 2- After dividing the sector to sections, they worked on filling the check list for the sections, in this step, they choose the results after they reached the area, they showed the evidences and discussed them, then took photos for all results and evidences.
 - 3- Computerization works:
 - A. Creating a file for each section.
 - B. Copying the photos of section to the section's file.

- C. Refilling the soft copy of the check list after revising the results and discussion.
- D. Supporting the choices and decisions with figures which include descriptions.
- E. Finally, specifying the unstable areas, loose remove areas and the suggested replacement area.

Siq Stability - Phase III

Landslide Mitigation works in the Siq of Petra (Siq Stability Phase III) Execution of consolidation of unstable blocks in sector 11:

The landslide mitigation process in the Siq of attained the following:

- Basic knowledge
- Monitoring
- Hazard analysis
- Implementation of mitigation works and training
- Implementation of debris removal small block
- Dislodgment and implementation

Proposed interventions 2 ,works executed

SECTOR	RISK DEGREE	WORK TYPES	WORK DURATION	BUDGET (USD)
11 (a) - RS	Very High	Reinforced net panels, anchors	Day/2 months	70,000
11 (c) - RS	Very High	Reinforced wall, anchors, reinforced net panels	Day /6 months	230,000
5 - RS	High	Reinforced wall, anchors, reinforced net panels	24h/4 months	130,000
11 (b) - RS	High	Reinforced net panels, anchors, dislodgement	24h/3 months	110,000
11 (d) - LS	High	Dislodgement	Day/3 days	5,000
13 - RS	High	Reinforced concrete wall (dam)	24h/1 month	30,000
15 - Treasury	High	Reinforced net panels, anchors, rock fall barrier	Night/4 months	200,000
7- RS	Medium	Anchors	Day/1 month	30,000
9 - RS	Medium	Dislodgement	Day/3 days	5,000
12 - RS	Medium	Anchors	Day/1 month	30,000
15 - Wadi al-Jara	Medium	Gabions, earth dam, slope re-shape, reinforced base wall	24h/3 months	120,000

- **Intangible Heritage Values**

- Linking the Jordanian cultural identity with intangible heritage in the region, which will positively enhance the connection to the site.
- Establishing cooperation with Princess Basma Center for Intangible Cultural Heritage at Al Hussein Bin Talal University.
- PDTRA is supporting local initiatives, such as Grandmother's Club, which was founded by the young women in Wadi Musa Center, and assist in

gathering older women to meet and discuss with young people over the age of 18 to talk about their experiences in the region.

- Producing a series of films with collaboration with the Royal Film Authority and Al Hussein Bin Talal University (TV Production Unit), addressing intangible heritage aspects, such as traditional dresses, food, agriculture, and all the cultural facets of the local community within the archaeological site.
- Defining the traditional crafts in Petra as the works of the artisanal societies within the PDTRA, in order to improve these products, which shows the cultural identity of the archaeological site.
- Developing and strengthening local products and handcrafts in the sense that reflects cultural values of Petra.

- **Local Communities**

During the Reactive Monitoring Mission, two meetings were held with local communities; each meeting consisted of a small representative group who described their situation and the challenges faced. The main challenge was that they feel disenfranchised and need a suitable framework from the regional authorities to address privately owned land within the planned buffer zone, individual economic growth and better management of the Petra site.

Although the buffer zone proposed regulation limiting the land owners from making any new construction, the new projects implemented in the buffer zone by the PDTRA aimed to reduce the pressure in the site, and generate new economic benefits for the local communities.

The PDTRA is working on the following:

- PDTRA will reform the Advisory Council to include all the six populated communities
- Improving access to economic benefits derived from the site and tourism to a wider part of the community .
- Promoting new activities related to tourism in all villages .
- Facilitating the role of local initiatives Such as the Nabataeans Capital Association to include all areas of the region .
- Working with local communities to develop alternative tourism experiences in the surrounding area .
- PDTRA will identify tourism products and activities that can take place within different locations around Petra and are managed by the local communities in these areas; and work with these communities to develop and market these products and activities.

- Identifying specific economic activities that can be located in each village beyond tourism related activities, and support local communities in developing initiatives

In addition, an initiative by the The Japan International Cooperation Agency (JICA) is undertaking a project for 'Community Based Regional Tourism Development in the Petra Region' that will be implemented between November 2015 till October 2018, aiming to improve tourism in Petra region in cooperation with various stakeholders and communities.

- [Child Labour and School Dropouts](#)

PDTRA will work with the local community and donkey owners to stop children working on site with the animals and to provide support with other means of economic activity, and work with NGOs to carry out target workshops in schools for different age groups of children, starting with Umm Sayhoun and Beidha.

An initiative was conducted for educating children through a cooperation between the PDTRA and the Petra Society for Integrated Development, spanning over two months with 90 children under the age of 12 years.

Key results of this initiative were:

- Improving the level of reading and writing for children, which will help students continue in advanced classes.
- PDTRA has involved the local community with all governmental and non-governmental organizations that deal with the care of children such as UNICEF, the Ministry of Labor, the Ministry of Education and the Ministry of Ministry of Social Development, in order to increase their knowledge and concerns of the children and working on finding solutions for them.
- PDTRA operated a football field and games within the park for the local communities' children .

And last but not least, monitor the dropout levels in cooperation with NGOs groups