



**QUSAYR 'AMRA**  
**SITE MANAGEMENT PLAN**

Amman, January 2014



# QUSAYR 'AMRA

## SITE MANAGEMENT PLAN

Amman, January 2014

### CONTRIBUTORS

<b>Department of Antiquities of Jordan:</b>	Wesam Esaid, Romel Ghraib, Jehad Haron, Hossam Hjazeen, Ahmed Lash, Asma Shhaltoug
<b>Ministry of Tourism and Antiquities:</b>	Hussein Khirfan
<b>World Monuments Fund:</b>	Gaetano Palumbo, Angela Atzori, Ignacio Arce, Alessandra Peruzzetto

**EDITORS:** Gaetano Palumbo, Angela Atzori

*The Qusayr 'Amra Management Plan was developed by a joint Department of Antiquities - World Monuments Fund team, and printed with support from World Monuments Fund, thanks to the contributions of the Robert W. Wilson Challenge to Conserve Our Heritage and the Selz Foundation.*

*The Qusayr 'Amra Conservation Project is a collaboration between the Department of Antiquities of Jordan, World Monuments Fund and the Istituto Superiore per la Conservazione ed il Restauro.*



All photos by Gaetano Palumbo, except otherwise indicated.

# FOREWORD

The Hashemite Kingdom of Jordan is endowed with an exceptional variety of archaeological sites, spanning the entire history of human presence in the region. Many of these sites have an Outstanding Universal Value, as recognized by the inscription of four of them in the UNESCO World Heritage List. One of these is Qusayr 'Amra, the first in fact –together with Petra- to be inscribed in the World Heritage List as early as 1985.

Many years have passed since that inscription, and the site has received from the Ministry of Tourism and Antiquities and the Department of Antiquities the attention and protection it deserves. Although regulations for such protection are in place, as well as facilities and personnel to ensure their implementation, a comprehensive Site Management Plan for further enhancement of these regulations did not exist.

This document fills a gap in the Ministry's and Department of Antiquities commitment to fulfill the requirements of the World Heritage Convention. Site boundaries were defined in 2013 and with the presentation of this Site Management Plan, the Jordanian Government complies with the World Heritage Committee's invitation to provide these essential documents.

This Site Management Plan is now an operational tool in the hands of the Ministry and of the Department of Antiquities. Its implementation and follow-up will ensure the preservation to future generations of the Outstanding Universal Values of this unique site.

HE Nidal Katamine  
Minister of Tourism and Antiquities





# INTRODUCTION

It is with great pleasure that I am introducing the first comprehensive Site Management Plan for Qusayr 'Amra World Heritage Site.

For many years the site lacked the tools required to make its inscription in the World Heritage List more effective. With the official adoption of this Site Management Plan, the Department of Antiquities is now able to improve on its protection and conservation approach, and to schedule conservation and monitoring actions more efficiently.

Qusayr 'Amra is a unique site that requires particular attention if we want to protect its Outstanding Universal Values. Many visitors from all over the world come to the site, and they deserve to be welcomed and provided with an indelible educational experience. The work of our team addressed all these issues and we intend to implement measures to correct the present situation over the course of the next years.

An important component of the site management planning process was the consultation with and involvement of the local community, in order to explore with them opportunities for economic and cultural development. The entire process, from data collection to assessments, and from the definition of policies to the identification of specific implementing actions, was an experience that the Department of Antiquities intends to replicate at other important sites requiring the support of a comprehensive Site Management Plan.

As every operational tool, this document is not the final word on the management of the site. We will monitor the implementation of the actions recommended by the Plan and we will provide corrective measures if issues arise in the course of action. A complete revision of the Site Management Plan will follow after one year of trial implementation, in order to respond to upcoming challenges, or to reinforce those actions that prove positive for the conservation and presentation of the site. Only by a continuous site management implementation, monitoring and response we can be sure that our duty and responsibility to preserve the Outstanding Universal Values of the site will be fulfilled.

HE Munther Jamhawi  
Director General  
Department of Antiquities of  
the Hashemite Kingdom of Jordan







# TABLE OF CONTENTS

<b>ABBREVIATIONS</b> .....	11
<b>ACKNOWLEDGMENTS</b> .....	13
<b>EXECUTIVE SUMMARY</b> .....	15
<b>SECTION I – SITE DESCRIPTION AND DOCUMENTATION</b> .....	23
<b>CHAPTER 1 – THE SITE</b> .....	25
<b>1.1. Location and boundaries</b> .....	25
<b>1.2. Archaeological and historical contexts</b> .....	27
<b>1.3. History of interventions</b> .....	28
1.3.1. Discoveries and early campaigns.....	28
1.3.2. Conservation projects.....	29
<b>1.4. Qusayr ‘Amra: a World Heritage Site</b> .....	30
<b>CHAPTER 2 – DOCUMENTATION</b> .....	31
<b>2.1. Architecture and construction materials</b> .....	31
<b>2.2. The mural paintings</b> .....	32
<b>2.3. The archaeological setting</b> .....	36
<b>2.4. Site plans and surveys</b> .....	37
<b>2.5. Photographic documentation</b> .....	38
<b>SECTION II – SITE ASSESSMENT AND ANALYSIS</b> .....	39
<b>CHAPTER 3 – Physical conditions</b> .....	41
<b>3.1. Condition assessment</b> .....	41
3.1.1 Infrastructures.....	41
3.1.2. Facilities and services.....	43
3.1.3. Regional and local development contexts.....	46
3.1.4. Physical conditions of the main building and architectural structures.....	49
3.1.5. Physical conditions of paintings in main building.....	53
<b>3.2. Risk assessment</b> .....	59
3.2.1. Natural threats.....	59
3.2.2. Man-made threats.....	60
<b>CHAPTER 4 – THE MANAGEMENT CONTEXT</b> .....	63
<b>4.1. Legal status and protection</b> .....	63
4.1.1. National protection.....	63
4.1.2. International designation.....	67
<b>4.2. Competent authorities</b> .....	69
4.2.1. The Department of Antiquities.....	69
4.2.2. The Ministry of Tourism and Antiquities.....	72
<b>4.3. Key stakeholders</b> .....	73
<b>4.4. Financial resources</b> .....	75
<b>4.5. Visitors’ numbers, profile and impact</b> .....	76

4.5.1. Tourists' flows.....	76
4.5.2. Tourist and visit profiles.....	77
4.5.3. Tourism impact and management.....	78
<b>CHAPTER 5 – SITE SIGNIFICANCE AND VALUES.....</b>	<b>79</b>
<b>5.1. Cultural significance.....</b>	<b>80</b>
5.1.1. Historical value.....	80
5.1.2. Archaeological value.....	81
5.1.3. Artistic and aesthetic values.....	81
5.1.4. Architectural value.....	82
5.1.5. Natural value.....	82
5.1.6. Scientific value.....	83
5.1.7. Social and symbolic values.....	83
5.1.8. Outstanding Universal Value, authenticity and integrity.....	83
<b>5.2. Other site values and assets.....</b>	<b>86</b>
5.2.1. Tourism and economic development.....	86
5.2.2. Educational assets.....	86
<b>CHAPTER 6 – SUMMARY OF CONDITIONS, RISKS AND KEY ISSUES.....</b>	<b>89</b>
<b>6.1. Legal and institutional framework.....</b>	<b>89</b>
<b>6.2. Conservation and documentation.....</b>	<b>90</b>
<b>6.3. Maintenance and monitoring.....</b>	<b>91</b>
<b>6.4. Visitation and interpretation.....</b>	<b>92</b>
<b>6.5. Research and excavations.....</b>	<b>93</b>
<b>6.6. Facilities, services and infrastructures.....</b>	<b>94</b>
<b>6.7. Public awareness, education and community participation.....</b>	<b>95</b>
<b>6.8. Investments and funding.....</b>	<b>95</b>
<b>SECTION III – SITE MANAGEMENT PLANNING.....</b>	<b>99</b>
<b>CHAPTER 7 – VISION, AIMS AND POLICIES.....</b>	<b>101</b>
<b>7.1. Vision.....</b>	<b>101</b>
<b>7.2. Aims and policies.....</b>	<b>101</b>
7.2.1. Appropriate use.....	101
7.2.2. Legal and institutional framework.....	102
7.2.3. Conservation and documentation.....	103
7.2.4. Maintenance and monitoring.....	105
7.2.5. Visitation and interpretation.....	106
7.2.6. Research and excavations.....	107
7.2.7. Facilities, services and infrastructures.....	107
7.2.8. Public awareness, education and community participation.....	108
7.2.9. Investments, marketing and funding.....	109
<b>CHAPTER 8 – STRATEGIES AND ACTIONS.....</b>	<b>111</b>
<b>8.1. Appropriate use.....</b>	<b>111</b>
8.1.1. Guidelines and implementation.....	111
<b>8.2. Legal and institutional framework.....</b>	<b>111</b>

8.2.1. Definition and enforcement of legal provisions and boundaries.....	111
8.2.2. Definition of responsibilities concerning the site.....	111
8.2.3. Configuration of the management system and of legal obligations .....	111
8.2.4. Capacity building and training.....	112
<b>8.3. Conservation and documentation.....</b>	<b>113</b>
8.3.1. Planning.....	113
8.3.2. Coordination and supervision.....	113
8.3.3. Conservation guidelines and immediate threat control.....	113
8.3.4. Establishment of the Qusayr ‘Amra Documentation Centre .....	114
<b>8.4. Maintenance and monitoring.....</b>	<b>114</b>
8.4.1. Planning and coordination.....	114
8.4.2. Guidelines, protocols and urgent actions.....	114
8.4.3. Visitors monitoring .....	115
<b>8.5. Visitation and interpretation.....</b>	<b>115</b>
8.5.1. Site promotion.....	115
8.5.2. Planning .....	115
8.5.3. Implementing actions .....	115
<b>8.6. Research and excavation.....</b>	<b>116</b>
8.6.1. Planning and coordination.....	116
8.6.2. Excavation, documentation, research .....	116
<b>8.7. Facilities, services and infrastructures.....</b>	<b>117</b>
8.7.1. Planning and coordination .....	117
8.7.2. Hospitality and facilities improvement.....	117
<b>8.8. Public awareness, education and community participation.....</b>	<b>118</b>
8.8.1. Planning and coordination.....	118
8.8.2. Community involvement .....	118
<b>8.9. Investments, marketing and funding.....</b>	<b>118</b>
8.9.1. Planning.....	118
8.9.2. Fundraising, cooperation, and national/international projects.....	118
8.9.3. Support for private and community-based initiatives .....	118
<b>CHAPTER 9 – PLAN IMPLEMENTATION.....</b>	<b>119</b>
<b>9.1. Mechanisms and responsibilities.....</b>	<b>119</b>
9.1.1. Plan approval and implementation mechanism.....	119
9.1.2. Ministry of Tourism and Antiquities.....	119
9.1.3. Department of Antiquities.....	120
<b>9.2. Action Program.....</b>	<b>121</b>
<b>9.3. Plan monitoring and periodic review.....</b>	<b>122</b>
<b>BIBLIOGRAPHY .....</b>	<b>126</b>



# ABBREVIATIONS

<b>ACAP</b>	Azraq Community Archaeological Project
<b>ACOR</b>	American Centre of Oriental Research
<b>APAAME</b>	Aerial Photographic Archive for Archaeology in the Middle East
<b>ASAM</b>	Academic Society of Alois Musil
<b>ASL</b>	Above Sea Level
<b>CBRL</b>	Council for British Research in the Levant
<b>CCTV</b>	Closed-Circuit Television
<b>DAI</b>	<i>Deutsches Archäologisches Institut</i>
<b>DLS</b>	Department of Lands and Survey
<b>DoA</b>	Department of Antiquities
<b>EDS</b>	Energy-Dispersive X-ray Spectroscopy
<b>GC-MS</b>	Gas Chromatography/Mass Spectrometry
<b>FSLA</b>	<i>Fondation Suisse-Liechtenstein pour les recherches archéologiques à l'étranger</i>
<b>FTIR</b>	Fourier Transform Infrared spectroscopy
<b>FUA</b>	Florence University of the Arts
<b>GIS</b>	Geographic Information System
<b>GPS</b>	Global Positioning System
<b>ICOMOS</b>	International Council of Monuments and Sites
<b>IFAPO</b>	<i>Institut Français d'archéologie du Proche-Orient</i>
<b>Ifpo</b>	<i>Institut Français du Proche-Orient</i>
<b>ISAD</b>	<i>Istituto Superiore per le Tecniche di Conservazione dei Beni Culturali e dell'Ambiente</i>
<b>ISCR</b>	Istituto Superiore per la Conservazione e il Restauro
<b>JD</b>	Jordanian Dinars
<b>JITOA</b>	Jordan Inbound Tour Operators Association
<b>JTB</b>	Jordan Tourism Board
<b>JTGA</b>	Jordan Tour Guides Association
<b>MAN</b>	<i>Museo Arqueológico Nacional de Madrid</i>
<b>MEGA</b>	Middle Eastern Geodatabase for Antiquities
<b>MoTA</b>	Ministry of Tourism and Antiquities
<b>MTS</b>	Medium Term Strategy
<b>NGO</b>	Non-Governmental Organization
<b>NRA</b>	Natural Resources Authority
<b>OUV</b>	Outstanding Universal Value
<b>QADoC</b>	Qusayr 'Amra Documentation Centre
<b>RBG</b>	Royal Botanic Garden
<b>RSCN</b>	Royal Society for the Conservation of Nature
<b>SAP</b>	Site Annual Plan
<b>SEM</b>	Scanning Electron Microscope
<b>SM</b>	Site Manager
<b>SMD</b>	Site Management Directorate

<b>SMP</b>	Site Management Plan
<b>SMPT</b>	Site Management Plan Team
<b>SMU</b>	Site Management Unit
<b>SOUV</b>	Statement of Outstanding Universal Value
<b>TSMC</b>	Tourism Site Management Directorate
<b>UNESCO</b>	United National Educational, Scientific and Cultural Organization
<b>UTM</b>	Universal Transverse Mercator
<b>WHC</b>	World Heritage Committee
<b>WMF</b>	World Monuments Fund
<b>WHS</b>	World Heritage Site
<b>WHSS</b>	World Heritage Sites Section

## ACKNOWLEDGMENTS

The Qusayr 'Amra Management Plan was developed as part of the Qusayr 'Amra Conservation Project, jointly designed and implemented by the Department of Antiquities of Jordan, the World Monuments Fund and the *Istituto Superiore per la Conservazione ed il Restauro*.

Our thanks go to Mr. Fares Hmoud (previous Interim Director General at DoA) and to Dr. Munther Jamhawi (DoA Director General) for their support and advice throughout the project.

The local communities and the Municipalities of Muwaqqar and Azraq, represented by their respective mayors and by numerous NGOs, met with the team in a number of occasions, sharing their views on the future of the site.

The Royal Society for the Conservation of Nature and the Royal Botanic Garden provided information on the natural environment of the site.

Mr. Hakim Al-Sabealah hosted one of the stakeholder meetings in his tent at the entrance of the site and shared his concerns and vision for tourist-related activities.

The professors and students of the Hashemite University's Queen Rania Institute for Tourism and Heritage collaborated on the tourism surveys at the site and in a pilot activity for the design of new exhibits in the visitor center. We would like to thank in particular Prof. Zeidan Kafafi, Prof. Firas Alawneh, and Prof. Arwa Badran for their support, as well as the numerous students who participated in the tourism survey project.

We would also like to thank the numerous institutional stakeholders that have participated in general as well as one-on-one meetings, providing information and sharing views on conservation and development strategies to implement on site. A more detailed list of these fundamental stakeholders is provided in chapter 4 of this Site Management Plan.

Finally, our thanks go to Giovanna De Palma (ISCR), and Lisa Ackerman (WMF), for reading and commenting on the final draft of this document.



Qusayr 'Amra in springtime



# EXECUTIVE SUMMARY

## INTRODUCTION AND METHODOLOGY

The Qusayr 'Amra Site Management Plan establishes the policies and strategies for the implementation of conservation, presentation, and management actions conceived to preserve its Outstanding Universal Value (OUV).

Qusayr 'Amra World Heritage Site (WHS) was inscribed in the World Heritage List in 1985. It consists of a bath house with associated hydraulic features as well as a number of ancillary structures spread over a 2 km<sup>2</sup> area in Wadi al-Butum, 85 km east of Amman along the Amman-Azraq highway. The site belongs mainly to the latter part of the Umayyad period, and it has been dated on the basis of archaeological and epigraphic data to a period comprised between 720 and 740 AD. There are however archaeological remains belonging to earlier periods (mainly Paleolithic) and evidence of use of the building in later periods, such as the Ayyubid-Mamluk period, as well as use until recent times by local Bedouins.

The site was inscribed in the World Heritage List for the presence of the most complete cycle of mural paintings in existence for the Umayyad period. The themes recall leisure activities such as hunting, dancing, and music playing, but there are also scenes that are still open to interpretation such as the presence of six kings paying their respect to the Prince, of a woman on the edge of a pool observed by a crowd of onlookers, and of at least one prophet (Jonah) whose story is narrated both in the Bible and the Qur'an. The dome in the *caldarium* is internally decorated with a representation of the night sky, the earliest such representation on a non-flat surface.

A conservation project conducted by the Department of Antiquities (DoA), World Monuments Fund (WMF), and the *Istituto Superiore per la Conservazione e il Restauro* (ISCR) is revealing the unexpected presence of brilliant colors and details under layers of later additions of chemical products and repaintings. The project has also addressed the conservation of the heavily eroded extrados of the vaults and of the wall bases, has conducted archaeological surveys in the site's area, revealing the presence of prehistoric remains as well as those contemporary with the known Umayyad structures, and is addressing various other activities related to the management, presentation and development of the site. The present document is a component of this project.

A first phase of documentation was conducted in order to gathering published and unpublished information on the site from archives around the world. This phase was followed by on-site research and assessments and by the organization of several stakeholders meetings and tourism surveys, which altogether provided information on the state of conservation of the site, on possible threats to its integrity and authenticity, on management and tourism issues and opportunities, and which allowed identifying the causes of the observed risks.

These assessments were followed by actions towards the improved conservation and management of the site. These actions included conservation and research activities and metric surveys to establish the actual legal boundaries of the site. They also ensured thorough implementation of a management planning process that identified a number of core values besides the established OUV, and which elaborated policies for each of the identified main topics concerning conservation and development at the site (see below). The policies were then further elaborated in a number of strategies and actions presented in a 5-year action plan and articulated by priority of intervention.

### SITE VALUES

The values of Qusayr ‘Amra have been identified through in-depth technical analyses as well as through broad consultations with stakeholders. Accordingly, a core set of values shapes the significance of the site through the following components:

- Historic value: stemming from the contextualization of the site in its historical time, at the very core of Arab expansion and during the apogee of the Umayyad caliphate;
- Archaeological value: deriving from the richness in archaeological structures and sites in the area surrounding Qusayr ‘Amra, spanning over tens of thousands of years and providing information on different modalities of human settlement in the *badiyah* through time;
- Artistic/aesthetic value: linked to the presence of one of the most extensive cycle of paintings of early Islamic art, with the unique testimony they provide in understanding the origins of this art as well as its cultural, iconographic and technical references;
- Architectural value: deriving from the building style, techniques and materials as well as from the advanced water channelling system allowing the existence of a bath complex and, seemingly, of gardens and/or agricultural cultivations in the steppe;
- Natural value: linked to the existence of Wadi al-Butum and of its peculiar ecosystem, which presumably was one of the key reasons why Qusayr ‘Amra was built there;
- Scientific value: deriving from the enormous potential of archaeological discoveries in the area, which may sensibly impact the global understanding of Desert Castles’ structure and function as well as of Umayyad territorial strategies and control;
- Social and symbolic values: stemming from the role held by Qusayr ‘Amra for local communities and in the symbolic frames of reference of the Bedouin tribes who have occupied the land for centuries.

A further group of values, or also opportunities, includes all such elements deriving from the many potential or effective uses of the site and producing secondary repercussions on stakeholders and the local community. This group seemingly includes:

- Tourism and economic values and assets: deriving from people’s interest in the site, expressed through their visit to it and triggering the development of associated income-generating activities such as tickets sale, bookshop, cafeteria, tourists guide, sale of souvenirs etc.
- Educational assets: linked to the informative potential that the site retains over the general public of any age and to the possibility of transferring these information through a variety of educational and communication policies and strategies.

These core values are further reinforced and enhanced by the international recognition of the site’s OUV, its authenticity and integrity, which have gained Qusayr ‘Amra the nomination as a WHS in 1985. The OUV of Qusayr ‘Amra is linked to its exceptional paintings, which have no parallel during the Umayyad period and which also provide an unprecedented corpus of images to investigate and understand early Islamic art, its iconography, style and cultural/artistic references. Qusayr ‘Amra’s OUV is also associated to the exceptional state of conservation of its architectural ensemble, a concept only introduced in the retrospective Statement of OUV of 2010 and that includes the other features surrounding the site and its environmental context. The authenticity of Qusayr ‘Amra is linked to the existence and state of conservation of its remains, particularly the building with its decorative features but also the other structures recovered in the surrounding area. Some remarks need being made in this regard, particularly in the light of the new discoveries at the site. These discoveries suggest that the paintings at Qusayr ‘Amra are a challenging blend of authentic background layer topped by modern modifications, which in some cases have sensibly altered

the original iconography. The restitution of the original Umayyad paintings through active removal of all subsequent layers thus appears as a most necessary and compelling intervention if the authenticity of attributes such as form and design is to be preserved.

The integrity of the site focuses on the physical conditions of the main monument building and on the deterioration processes harming its conservation on the long term. Accordingly, the baths and reception hall with their frescos remain intact, although threatened by a variety of factors such as erosion, flooding, moisture penetration, dirt, graffiti and birds/insects' deposits. Other threats come from development works and encroachment from a variety of activities: the appropriate management of development interventions at the site is a vital factor to the preservation of Qusayr 'Amra's integrity. The provision of adequate core and buffer boundaries, the set up and enforcement of appropriate modalities to manage development works in the area, and finally the mandatory execution of archaeological/environmental impact assessments and of emergency archaeology are all key possible measures to mitigate the alteration of the area's integrity.

#### **SUMMARY OF THREATS**

The conservation, management and presentation of Qusayr 'Amra presents issues of various relevance, whose long-term persistence may have an impact on the preservation of the site. The analysis of these emerging issues and their root causes justify their merging in few thematic groups:

- Legal and institutional framework;
- Conservation and documentation;
- Maintenance and monitoring;
- Visitation and interpretation;
- Research and excavations;
- Facilities, services and infrastructures;
- Public awareness, education and community participation;
- Investments, marketing and funding.

Key issues within the “legal and institutional framework” concern the existing legal provisions for site protection and management and their implementation. They also include site management responsibilities and tasks, and their distribution among concerned staff and authorities, namely the Ministry of Tourism and Antiquities (MoTA) and the Department of Antiquities (DoA). Within the “conservation and documentation”, key issues particularly pertain the vision and strategy to conserve the site, as well as the modalities for site conservation and the documentation of interventions and its easy accessibility.

Maintenance and monitoring are particularly relevant to the durable preservation of the site values. In this regard, key emerging issues concern the strategy and modalities for monitoring and maintenance, as well as the staff in charge for monitoring and maintenance and their responsibilities. Presentation and interpretation is another important domain at the site, and it is currently particularly concerned by the lack of a vision and strategy for site visitation and interpretation, including actions and tools to convey the values of the site. It also pertains to the management of visitors' impact on the conservation of the site, as well as the coordination among bodies responsible for the design and development of site visitation and interpretation. Within the domain of research and excavation, a key emerging issue is the definition of the strategy and modalities for future investigation and researches, with the view to complete and integrate the quantity of studies and campaigns that to date have characterized the main monument building and its immediate surrounding structures.

## EXECUTIVE SUMMARY

Facilities, services and infrastructures are of fundamental importance to allow a pleasant and appreciated visit to the site, and are thus a tool for appropriate communication of the site values. This group of issues concerns the facilities, services and infrastructures available at Qusayr ‘Amra, including those for tourism-related purposes. Key evidences, in this regard, include the lack of shaded and sitting areas along the paths leading from the site’s entrance to the main monument building, as well as the underuse of space in the visitor centre, against a substantial lack of adequate spaces for cultural exhibitions and tourist services. They also include the lack of proper disabled-friendly accesses and infrastructures and of adequate hospitality services, such as a souvenir shop and a bookshop with thematic publications and maps available on site, increasingly required by tourists.

Public awareness, education and community participation are relevant in so far as they engage the local community and the public in a durable engagement for the preservation of the site. Key emerging issues, in this regard, concern the public knowledge on the cultural and natural significance of the site, as well as public awareness on heritage preservation and appropriate behaviours. They also include the definition of modalities and means to enhance public engagement and youth education. Finally, the thematic group on investments, marketing and fundraising is of key importance to ensure the site continuous availability of funds for projects implementation. In this regard, key emerging issues include the entity of national investments to improve Qusayr ‘Amra’s conservation and tourist appeal, and private investments in tourism-related activities.

### VISION, AIMS AND POLICIES

The assessment of values and the understanding of threats at the site allowed the definition of a vision statement and of policies addressing long term conservation, presentation, and community engagement at Qusayr ‘Amra. Below is the vision statement forming the basis of policies and strategies definition.

*Qusayr ‘Amra World Heritage Site is an exceptional site that illustrates the transition from the Late Antique to the early Islamic era and which displays the most extensive cycle of figurative paintings of Umayyad times. These elements bear an outstanding universal value to the whole humankind, as it is recognized by Qusayr ‘Amra’s inscription in the UNESCO World Heritage List. The long-term, sustainable conservation and presentation of the site’s values, of its authenticity and integrity are a fundamental commitment of Jordan towards its people and the whole humankind. These values shall be further enhanced through continuous research and investigations by the national and international scientific community. Sustainable conservation and site development will be reinforced through education and income-generating activities, to ensure that strong socio-cultural ties link Qusayr ‘Amra to the local community and to its visitors. These various aspects will be addressed through the collaborative efforts of the Jordanian authorities and its international partners, in the framework of this comprehensive Site Management Plan.*

Policies were formulated to achieve the following aims (by thematic group):

#### **Appropriate use:**

Qusayr ‘Amra is an exceptional World Heritage Site conserving among the most unique examples of early Islamic culture and figurative art. As such, the use of the site will ensure that it remains authentic to its original configuration and setting, including the preservation of its natural ecosystem.

**Legal and institutional framework:** The legal and institutional framework will be conducive to the conservation and presentation of the site’s values, authenticity and integrity and will ensure the enforcement of protection

by-laws, the strategic and coordinated management of the site and its field-based monitoring and supervision.

**Conservation and documentation:** Qusayr ‘Amra will be conserved in its setting, form and material, respecting its authenticity and integrity, in order to maintain the Outstanding Universal Value (OUV) of the entire site, including the annex buildings and its physical and environmental contexts. Site conservation will particularly endeavor counteracting man-made and natural threats and will ensure the long-term sustainability and minimum impact of interventions, as per highest international standards. Accurate, periodic and accessible documentation will ensure transparency of interventions and their continuous revision in the light of new technical discoveries and acquisitions.

**Maintenance and monitoring:** Regular site monitoring and maintenance will ensure that the values of the site, its authenticity and its integrity remain intact and are properly conveyed to the local, tourist and scientific communities. Tourism flows will also be closely monitored to reduce their impact on the site.

**Visitation and interpretation:** Qusayr ‘Amra will be interpreted, presented and marketed to foster the thorough understanding of its cultural and natural values as expressed by the SMP. Communication and tourism strategies will be designed to meet tourists’ needs and expectations, and will endeavor to minimize visitation’s impact on site conservation. The MoTA and the DoA will concertedly collaborate to ensure highest interpretation and visitation standards through the synergy of their specific expertise and competences.

**Research and excavation:** Research in Qusayr ‘Amra will be promoted in order to reinforce and further enhance the OUV of the entire site. Renewed debate will be fostered on the historic and artistic context of the paintings, and further excavations will be programmed on the overall archaeological context to allow its interpretation and the relationship with other Umayyad sites in the Jordanian badiya. Investigations will be undertaken as per the highest international standards and will ensure that their outcomes are accessible to the international community and the larger public. Accurate, periodic and accessible documentation of excavations will ensure transparency of interventions and their continuous revision in the light of new technical discoveries and acquisitions. Provisions will be made to ensure that recovered artifacts are accurately recorded, declared and returned to the local authorities upon completion of researches.

**Facilities, services and infrastructures:** Qusayr ‘Amra World Heritage Site is a unique site that deserves services and facilities appropriate to its fame. The visitor centre will

be upgraded, services will be improved, and exhibits redesigned in order to bring these services to par with international standards. Site development will not conflict with site conservation, and it will be subordinated to the preservation and enhancement of the site's values, authenticity and integrity.

**Public awareness, education and community participation:**

Qusayr 'Amra will represent an expression of Jordanian identity and culture, and its legacy will be recognized and protected by locals and nationals as part of a common heritage. Awareness will be spread among adults and the youth on its values and assets, and heritage-friendly behaviours will be channelled here to educate a whole new generation of Jordanians to the conservation and respect for their past and their environment.

**Investments, marketing and funding:** Qusayr 'Amra will be allocated an annual budget for its regular maintenance and for site development, including tourism enhancement. Extra-budgetary funds will be ensured through ad-hoc fundraising activities to promote site conservation, investigation and presentation. Community-based activities aiming at tourism development in Qusayr 'Amra and in the surrounding badiya will be supported to enhance heritage-driven development in the area and to reinforce community participation into site conservation and presentation.

### STRATEGIC AXES AND ACTIONS

Policies will be implemented through the adoption of specific strategies and actions, which have been classified in terms of priority (High, Medium, Low) and timeframe (1-2 years, 3-5 years, more than 5 years). Each action is described in chapter 8 and summarized in the implementation plan in chapter 9. Generally speaking, the most urgent actions concern the development of an appropriate management structure and of specific guidelines for actions concerning the maintenance, monitoring, tourism management, sustainable use, and presentation of the site.

Within the "legal and institutional framework" policy framework, site management needs being structured so as to ensure a clear and progressive distinction of management actions at the implementation, coordination and strategic level. The strategic direction is proposed by a Joint Committee of technical experts, composed of staff from of the MoTA and the DoA. The directions are expressed through a Medium Term Strategy (MTS), expressing the vision and proposed interventions over a medium term time span of five years, and through a Site Annual Plan (SAP), defining the short term implementation actions and available budget on a yearly basis. The MTS and the SAP are prepared by the Joint Committee of technical experts and are submitted to the Director General of the DoA for validation and approval. They are then forwarded to the Minister of Tourism and Antiquities for endorsement, which ensures their legally binding value for implementation.

The Site Management Directorate (SMD) of the DoA is in charge for coordination of the effective implementation of the MTS and SAP in their general structure and guidelines. The Site Management Unit (SMU) is the field-based warrant of actions implementation, as defined in the SAP. The SMU is led by a

Site Manager (SM), who is permanently based on site and who is responsible for daily maintenance and monitoring of the site, for staff and guards supervision, and for the implementation and overseeing of specific conservation, presentation and management projects. The SMU reports to the SMD through its regional Directorate in Zarqa. Other urgent actions within the “legal and institutional framework” concern the definition of duties and responsibilities and of coordination mechanisms between MoTA and DoA and with other governmental institutions. They also include the capacity building of site staff.

“Conservation and documentation” actions include both the adoption of measures to address environmental conservation and the development of specific guidelines to ensure appropriate intervention in case of an emergency. Specific threats to address are the presence of birds and the continuing problem of graffiti. Finally, the establishment of a documentation centre is strongly recommended. “Maintenance and monitoring” requires not only the development of guidelines and protocols for their effective undertaking, but also the regular use of specific forms that will help the site manager to address conservation issues, along with the establishment of regular monitoring and maintenance cycles. “Visitation and interpretation” actions include a reconsideration of the present displays and a development of new narratives based on the recent discoveries at the site.

“Research and excavation” is concerned with the development of a global research strategy and agenda, of specific and project documents to address the investigation and preservation of the ancillary structures at the site, the development of a site GIS, and the strict monitoring of excavation projects within the boundaries of the site. “Facilities, services and infrastructures” include the improvement of present structures, such as parking area and lavatories, as well as improvement of access for the disabled, while avoiding any intervention that may modify the present setting. “Public awareness, education and community participation” actions include the organization of community days and regular contacts with local NGOs in order to develop opportunities for public engagement. Finally, “investments, marketing and funding” includes planning for the financing of projects, fundraising initiatives, as well as support for private business initiatives, especially those implemented by the local community.

This Site Management Plan (SMP) should ideally be reviewed and updated every five years, under coordination of the SMD. A first evaluation will be undertaken after one year from the approval and endorsement of the plan, and modifications will be applied as per relevant emerging needs. This review will include the implementation of new condition assessments, the evaluation of the impacts of projects and actions conducted on site and assessment of possible impacts on the site’s OUV, the drafting of recommendations for possible corrective actions, the organization of stakeholder meetings to discuss draft recommendations, and submission to the joint MoTA-DoA Committee for adoption.







# **SECTION I**

## **SITE DESCRIPTION AND DOCUMENTATION**

**Chapter 1 – The site**

**Chapter 2 – Documentation**



Aerial view of Qusayr 'Amra, courtesy APAAME



## CHAPTER 1 – THE SITE

### 1.1. LOCATION AND BOUNDARIES

Qusayr ‘Amra is located in the eastern steppe of Jordan, 85 km east of Amman and 25 km west-northwest of Azraq, along the highway linking the two localities (fig. 1.1). The site is spread along the banks of Wadi al-Butum, a water stream running northwest to southeast and hosting an extraordinary population of *butum* trees (*Pistacia atlantica*) dating back to centuries ago. The site extends over an area of approximately 2 km<sup>2</sup> and includes a variety of archaeological remains (fig. 1.2). Of these, the most renowned is the baths complex (fig. 1.2, structures 10 and 11), displaying the largest extant example of early Islamic figurative paintings in the world.

Qusayr ‘Amra was declared a National Property and a Protected Area under the Antiquities Law of 1935 (art. 8) on 9 November 1939 and through declaration on the Official Gazette of Jordan on 2 December of the same year (No. 656). No boundary was provided of the site, although the geographical coordinates reported in the Gazette indicate that the object of national protection at that time was the above-mentioned baths complex. Because of its exceptional artistic and archaeological features and conservation conditions, the site was also inscribed in the UNESCO World Heritage List in 1985. In 2010 the adoption of the retrospective Statement of Outstanding Universal Value (SOUV) by UNESCO recognized the other archaeological remains and the environmental context as key elements of the Outstanding Universal Value of the World Heritage Site (UNESCO 2010).

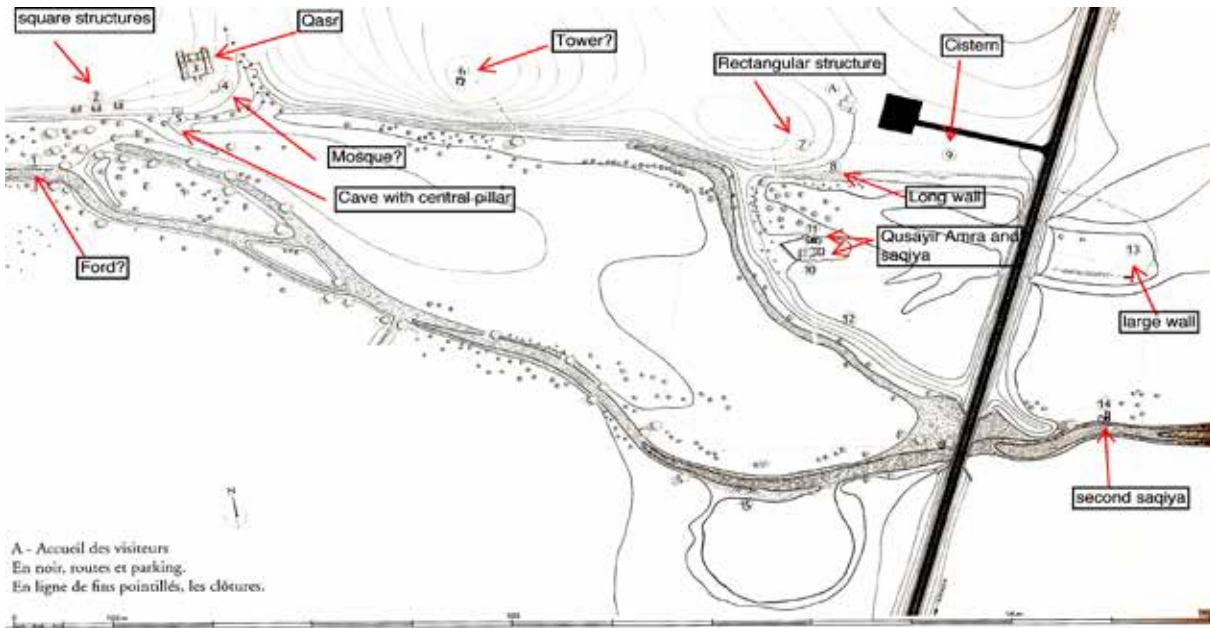
Site boundaries are being currently elaborated by the Department of Antiquities of Jordan (DoA) to ensure thorough protection of the site’s values, authenticity and integrity (fig. 1.3). The process was initiated in 2009 by the DoA and came to a halt in 2011 due to conflicting competences and interests among a



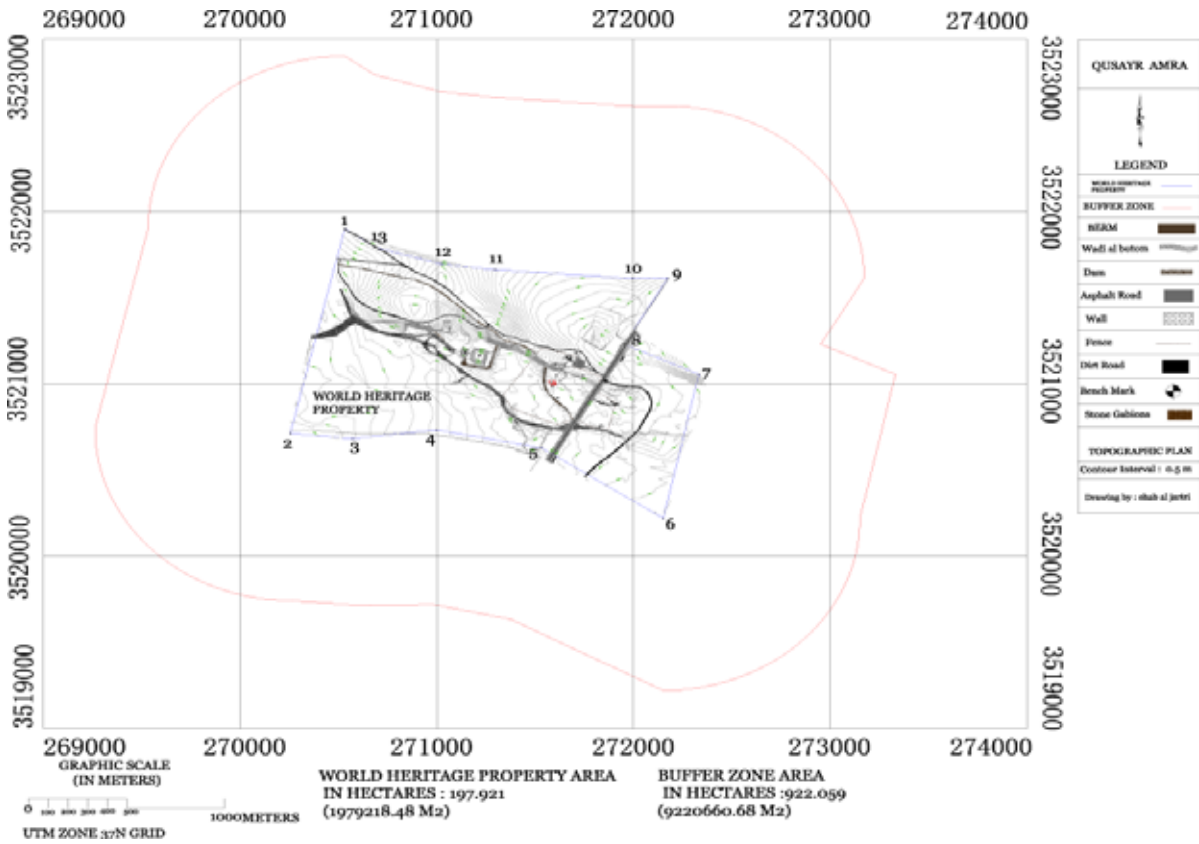
1.1. Location of Qusayr ‘Amra (Google Earth)



SECTION I – SITE DESCRIPTION AND DOCUMENTATION



1.2. Site map after Vibert-Guigue and Bisheh 2007 (pl. 2b)



1.3. Draft boundaries of the World Heritage property and its buffer zone, as submitted to the Land and Survey Department in July 2013

variety of stakeholders over the requested land, particularly the Ministry of Agriculture. In 2012 negotiations over land assignment resumed and are currently under discussion with the Department of Lands and Survey (Ministry of Finance). The proposed boundaries will provide the georeferenced support to land property allocation and will eventually indicate the extension of the protected area.

### 1.2. ARCHAEOLOGICAL AND HISTORICAL CONTEXTS

Qusayr ‘Amra is one of the several Umayyad palaces built in the main decades of the Umayyad rule (661-750) in the steppe of Syria and Jordan and normally referred to as Desert Castles<sup>1</sup>. The construction of Qusayr ‘Amra seemingly dates to the second quarter of the 8<sup>th</sup> century and was probably promoted by prince al-Walīd bin Yazīd during the long reign of Hisham bin Abd el-Malik (724-743 AD). This was indeed a particularly inspiring moment of the Umayyad caliphate, when the architectural program initiated by Abd el-Malik bin Marwan in 685 AD was further enhanced and consolidated throughout the Syrian and Jordanian steppe. Canals and water reservoirs were dug, hostelries were built along the pilgrim road, and luxurious buildings decorated with fresco paintings, colourful mosaics and carved stucco were spread throughout the Syrian steppe. The fact that several of these buildings were located in Jordan and especially in the Belqa region, administratively under the military district of Damascus, points to the exceptional importance of this sub-province in the policy of the Umayyads. (Vibert-Guigue and Bisheh 2007).

The function of the Desert Castles in the Umayyad political system is still open to interpretation. Some scholars suggest they were the retreats of Umayyad princes and caliphs who, being of nomadic origin, grew weary of the city life and attempted to return to the steppe where their nomadic inner soul could find best expression (Lammens 1908; Herzfeld 1921). Others propose that these castles controlled an extensive network of irrigated latifundia and that as such they were centres of agricultural exploitation (Sauvaget 1967; Grabar 1963; Grabar 1973). Others, again, suggest the inner link between the positioning of these castles and key agro-pastoral resources in the steppe such as water



1.4. The main building at Qusayr ‘Amra



1.5. The *saqiya* annexed to the main building



1.6. The second *saqiya* east of the highway



1.7. The so-called watchtower

<sup>1</sup>The category includes almost 20 foundations with living accommodations, for which a reasonable assumption can be made of use by the state, the ruling dynasty or by members of the Arabian aristocracy associated with the Umayyads (Grabar 1993). See also Alhasanat et al 2010.





1.8. The *qasr*

springs and transhumance routes, and infer that these castles were set up with the purpose of geopolitical control (Almagro 1995; King 1985; Alhasanat et al. 2010). All these hypotheses seem reasonable and may well represent the different factors of a more complex reality, where Desert Castles could have also played a strategic role in diplomatic exchanges between the Umayyads and the chiefs of local Arab tribes, their key supporters and allied in this part of the Umayyad domain.



1.9. Qusayr 'Amra at the time of Musil's first visit (courtesy ASAM)

As it will be detailed in the following chapter 2, the site of Qusayr 'Amra is composed of a variety of archaeological remains over an area of approximately 2 km<sup>2</sup>. Of these, the most renowned is the baths complex (figs. 1.2, structure 10, and 1.4) because of its unique cycle of early Islamic paintings. Key additional structures include two hydraulic systems for groundwater extraction (fig. 1.2, structures 11 and 14), one annexed to the baths complex (fig. 1.5) and one few hundred meters southeast to it (fig. 1.6), a watchtower (figs. 1.2, structure 6, and 1.7) and a palace or *qasr*<sup>2</sup> (figs. 1.2, structure 3, and 1.8), few hundred meters northwest of the baths. Extensively studied as for its exceptional paintings, the site is not yet thoroughly investigated nor understood in its archaeological complexity, and it is desirable that future archaeological campaigns and researches shed light on its global setting and inner connections among its various structures.

### 1.3. HISTORY OF INTERVENTIONS

#### 1.3.1. Discoveries and early campaigns

Early mentions of Qusayr 'Amra appear in the 17<sup>th</sup> century chronicles of **Hajj pilgrims**. However, the first clear reference to the site and its paintings dates back to 1806 and was made by **Ulrich Seetzen** in his “Beiträge zur Geographie Arabiens” (1808). Shortly after then, in 1812 Qusayr 'Amra was visited by **James Burckhardt**, who explored the site and reported on it in his “Reisen in Syrien, Palästina und der Gegend des Berges Sinai” (1824).



1.10. Qusayr 'Amra in 1943 (Lankester Harding archive, DoA)

At the end of the same century, **Gray Hill** tried to visit Qusayr 'Amra, but was discouraged by intertribal wars and the security risks in the area (Hill 1896; 1897). The site was briefly visited again in 1898 by the Czech priest and scholar

<sup>2</sup>The interpretation of these remains as a watchtower and a *qasr*/palace are currently agreed upon by scholars, but they are not supported by concrete evidence or dedicated study. In this document these expressions shall be adopted to facilitate inner reference to these structures, although their function remains uncertain and requires further investigation.

**Alois Musil**, who succeeded in briefly visiting the baths complex before being forced to escape due to a sudden Bedouin attack. Musil returned to the site in 1900 for a brief documentation campaign and then again in 1901, this time with the painter **Alphons Leopold Mielich**, to integrate the documentation with further photographs, drawings and measurements (Musil 1902; 1905; 1907) (fig. 1.9). At this time Musil and Mielich undertook a first cleaning of the paintings with brushes and chemicals, which initiated their progressive deterioration process. Some of the paintings were also detached from the walls and brought to Vienna for study purposes, including a fragment of the renowned scene of the six kings, currently conserved at the Museum of Islamic Art at the Pergamon Museum in Berlin.

Between 1907 and 1912 the site was visited by friars **Antonin Jaussen** and **Raphaël Savignac** from the Ecole Biblique in Jerusalem, who carried out a new documentation survey of the site with new photographs and measurements (Jaussen and Savignac 1922). During a new visit in 1909 Alois Musil thoroughly documented one of the inscriptions and tried to detach and export another fragment of the paintings.

In the 1920s or early 1930s the site was made object of explorations and the documentation by Sir **K.A.C. Creswell** (1932), at that time Inspector of Monuments in Palestine and Syria, and was visited by a number of travelers, including Gertrude Bell. Later on, in the 1930s and up to the 1950s, Qusayr 'Amra was repeatedly visited by **Gerald Lankester Harding** (1959), Director of Antiquities of Jordan from 1936 to 1956 (fig. 1.10).

### 1.3.2. Conservation projects

The earliest conservation works at Qusayr 'Amra were undertaken by the DoA in the 1950s and 1960s and concentrated primarily on the consolidation and refilling of some gaps in the walls. They also included the construction of the recently removed cistern in the *prae-furnium*, as it is suggested by the year date, 1965, engraved in the cement of this structure.

Not until the 1970s was the first major, comprehensive conservation project at Qusayr 'Amra undertaken. This work was carried out by the Spanish *Museo Arqueológico Nacional* (MAN) between **1971 and 1974**. The project focused on the conservation of the paintings, from which soot and grime were removed. They were then protected by a layer of shellac and highlighted through the repainting of the drawings' outlines. In 1974 a major structural intervention on the top of the western wall was completed. This included the placement of a reinforced concrete beam all along the top of the western wall, which was dangerously out of plumb, the filling of a large crack on the western vault and its consolidation with a layer of concrete. The project also included a series of archaeological interventions, such as the survey of the extended archaeological area and the excavation of parts of the hydraulic system of the baths complex. In 1979 a Spanish monitoring mission from the MAN visited Qusayr 'Amra to verify the process of ageing and deterioration of applied chemical agents as well as the impact of natural factors on the conservation works. In that occasion a second intervention took place on the central female figure of the western wall of the main hall (Almagro et al. 1974, 1975, 2002).

Qusayr 'Amra was again the object of coordinated national and international interventions between **1989 and 1996**, when a team from the *Institut Français d'archéologie du Proche-Orient* (IFAPO) and the DoA undertook an extensive documentation project with 1:1 reproduction of all paintings and their partial soft cleaning as required for the correct execution of the documentation work. The project offered the most comprehensive and detailed study ever made on the paintings of Qusayr 'Amra (Vibert-Guigue and Bisheh 2007; Vibert-Guigue 1991, 1992, 1994, 1996). It also allowed some archaeological campaigns that led, among others, to the recovery and consolidation of the spur wall and of the *saqiya* (fig. 1.2, structures 10-11) (Bisheh and Vibert-Guigue 1991; Seigne 1991; Morin 1996). Additional conservation works also



included the new paving of the main hall, which was designed according to the casts left by the original stone slabs in the ground (Bisheh et al 1997).

In **1996** a new Spanish mission from the **University of Granada** intervened on the paintings, particularly those of the so-called “throne room”, to counteract the fast deterioration pace of the fixative (shellac) used by the Spanish *Museo Arqueológico Nacional* in the 1970s (Medina Florez 1997; Medina Florez and Garcia Bueno 2002). At the same time and until **1999**, the site went through a set of coordinated actions by the **IFAPO**, the **French Embassy**, **UNESCO** and the **DoA**. These actions targeted site presentation and enhanced accessibility and included the design and construction of the new visitor centre, which was inaugurated in 1999 (Morin and Vibert-Guigue 2000).

Since **2010** the site is undergoing a thorough conservation project targeting simultaneously the main building and its decorative features, but also including the management planning of the site and its community-based preservation and enhancement. The project is a joint collaboration between **World Monuments Fund** (WMF), the Italian *Istituto Superiore per la Conservazione ed il Restauro* (ISCR) and the **DoA**. To date, the project has allowed the structural consolidation and restoration of the main building and the restoration of the western aisle (fig. 2.1, room IA), which particularly unveiled unprecedented features and elements of the paintings. Stakeholders consultations have been conducted throughout the project for the sustainable planning of the site, and the present Site Management Plan has been developed as part of this project to ensure long-term and sustainable conservation of Qusayr ‘Amra.

#### 1.4. QUSAYR ‘AMRA: A WORLD HERITAGE SITE

In **1985** Qusayr ‘Amra was inscribed as a **World Heritage Site**, acknowledging the exceptional testimony it bears to the Umayyad civilization (UNESCO 1985). The ICOMOS evaluation stressed the uniqueness of the figurative painting decoration on the walls and vaults of the main hall and baths, with historical, mythological and imaginary scenes and themes (ICOMOS 1984). These elements were later reaffirmed through the SOUV, retrospectively approved by the UNESCO World Heritage Committee (WHC) in 2010. Accordingly, Qusayr ‘Amra was inscribed in the World Heritage List since it meets criteria i, iii and iv, and namely because:

- Its paintings “constitute a unique achievement in the Umayyad period” (UNESCO 2010, p. 11) and represent “a masterpiece of human creative genius” as per criterion i) of UNESCO’s Operational Guidelines to the World Heritage Convention (2011);
- With its exceptional paintings and iconography, it bears “a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared” as per criterion iii) of the Operational Guidelines (2011);
- Being the best conserved of the Umayyad palaces and castles in Jordan and Syria, it provides “an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history” as per criterion iv) of the Operational Guidelines (2011).

Still today the site embeds these values and represents one of the key references for early Islamic art in the region. In 2010 the retrospective SOUV adopted by the World Heritage Committee (WHC) reiterated the reasons for inscribing the site in the World Heritage List according to criteria i, iii, and iv, adding a statement of authenticity and of significance, and expanding the values of the site to include its archaeological and environmental contexts.



## CHAPTER 2 – DOCUMENTATION

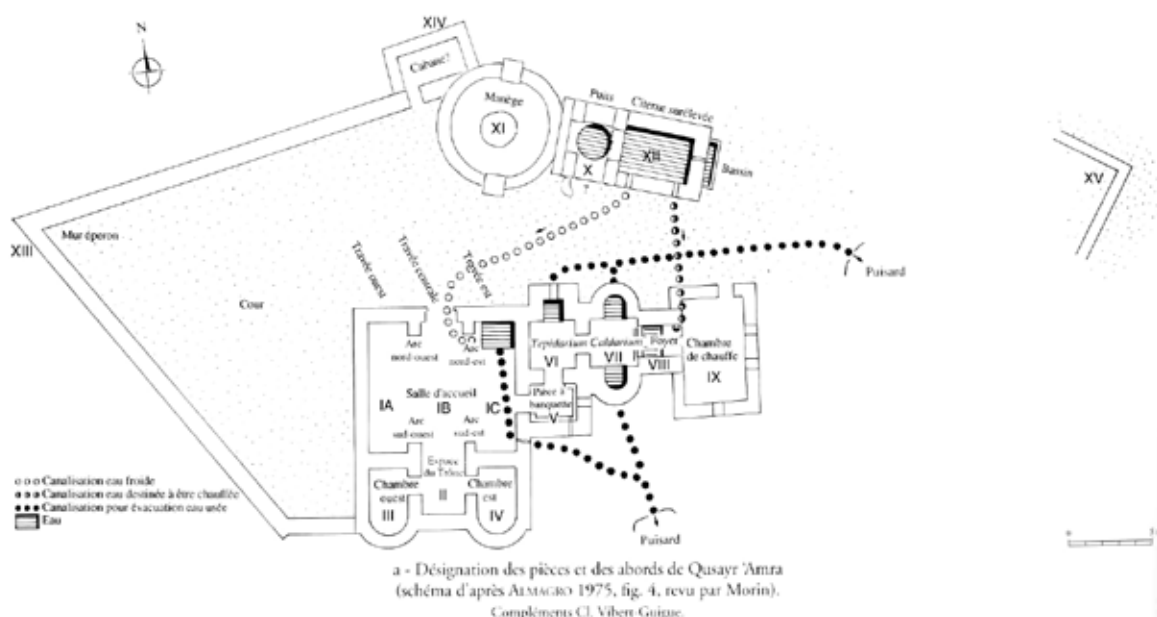
### 2.1. ARCHITECTURE AND CONSTRUCTION MATERIALS

The main monument building at Qusayr ‘Amra is the baths complex (figs. 2.1 and 2.2) because of its excellent state of preservation and its unique paintings with an iconographic repertoire witnessing the transition between Late Antique and early Islamic art. The building is oriented northeast-southwest and is accessible from its northern side. The entrance leads into the main audience hall (fig. 2.2, room I) with a water basin in its northeast corner. The hall is parted in three longitudinal aisles of the same width (fig. 2.2, aisles IA, IB and IC), each covered by barrel vaults underpinned by two large, slightly pointed arches. To the south, the hall continues into the so-called “throne room” (fig. 2.2, room II) which gives access, on the east and on the west, to two separate alcoves (fig. 2.2, rooms III and IV). These apsidal rooms are also covered by barrel vaults and are windowless. Their floors are covered by geometric mosaics in relatively good state of preservation.



2.1. Qusayr ‘Amra, main building

To the east of the main audience hall a smaller door leads to the steam bath. The area is divided in three rooms of approximately 6 m<sup>2</sup> each: the changing room or *apodyterium*; the warm room or *tepidarium*; and the hot room or *caldarium* (fig. 2.2, respectively rooms V, VI and VII). The *apodyterium* is characterized by a stone bench running along its southern and eastern walls and it is covered by a barrel vault. The *tepidarium* and *caldarium* are respectively covered by a cross-vaulted roof and by a dome resting on pendentives. They were warmed by the hot air coming from the nearby furnace and circulating in the



2.2. Plan of the building after Vibert-Guigue & Bisheh 2007 (pl. 4a)



2.3. Section of the perimetral walls

inside, rest only on one foundation course. The depth of the foundations in other parts of the building remains unknown, which appears as a matter needing investigation.

The perimetral walls of the building are made with stone blocks and a rubble core (fig. 2.3). The structure is similar to others of the same period, such as Hammam as-Sarrah, in the vicinity of Qasr Hallabat. In the lower part, ashlar are alternated with small flat horizontal stones as to make setting beds regular. Similar walls were also found in Qasr al-Kharraneh and in the Amman Citadel's mosque. The internal part of the wall is made of rubble of the same stone, randomly bedded in a gray and friable mortar mixed with ash. The masonry is about 75 cm thick, ensuring appropriate strength. Neither the great, slightly-pointed arches separating the two aisles in the main hall, nor the central aisle in the same hall have any buttresses.

The rear facade of the monument shows traces of plaster covering the stones. Large portions are visible near the mortar joints where they can more easily adhere to the underlying layers. The plaster also shows large gravel grains which were applied on top of it with the palm of the hand, in order to increase gripping of thinner layers of plaster for the finishing effect. The entire outer plaster layer and most of the preparatory layers, however, are lost.

## 2.2. THE MURAL PAINTINGS

The paintings are the most striking feature at Qusayr 'Amra and they represent the most extensive testimony of figurative art in Umayyad times known today. They are thus of fundamental importance to understand the birth and evolution of Islamic art in terms of themes, iconography and techniques. A product of Graeco-Syrian artistic tradition in its provincial form, the paintings display a rich and articulated iconographic repertoire of themes borrowed from Greek mythology, Sasanian traditions, and Roman-Byzantine-style portraits.

*hypocaust* and through terracotta pipes placed under the walls' marble covers, now lost. Hot and warm water pools were also available in these two rooms. The *suspensurae* are lost, while the floor of the *hypocaust* is characterized by flat stones with lime mortar bedding. In the centre of the room the *pilae* were made of basalt pillars, while the pillars attached to the sides of the two rooms were made of flat bricks set in lime mortar.

The service room east of the *caldarium* is the *praefurnium* (fig. 2.2, area VIII). It is accessible from the outside of the baths complex and may have hosted the furnace, a water tank and other service spaces to attend the fire. Soundings conducted in 2013 have revealed a lime mortar bedding for a stone floor, probably similar to the one found in the *tepidarium* and *caldarium*. The eastern portion of the *praefurnium* still needs to be investigated for the eventual presence of an intact floor. The floor of the *praefurnium* is at the level of the *hypocaust's* floor in the *caldarium*, which is 70-80 cm lower than the bath's floors. This means that the *praefurnium* walls,

The **main hall** (figs. 2.2, room I, and 2.4) is characterized by paintings covering all walls in their entirety, from the ground floor to the ceiling and vaults. The lower part of the paintings, from mid of the walls to the floor, displays architectural motifs, alternating false marbles and lesenes topped by Corinthian capitals with palmettes. The upper part and vaults host a variety of scenes from private, court, and public life.

In **aisle I A** (figs. 2.2, aisle IA, and 2.5) the upper part of the western wall displays a hunting scene with men capturing a herd of onagers by pushing them into an area surrounded by a net. Below, a composite scene juxtaposes wrestlers (to the right), a bathing woman (in the centre), and a procession of six kings (to the left). Inscriptions above the heads of the kings qualify them as the Byzantine Caesar, King Roderic of Spain, the Sasanian emperor Chosroes and the king of Abissinia. Two more kings cannot be recognized as their inscriptions are lost. The opposite wall is seriously damaged and few figures appear in the back, including standing people, a basket of grapes and an animal (a panther?). The northern wall of this aisle is also very damaged, but a marine scene can be recognized. The southern wall is particularly preserved and displays a person sitting under a tent and wearing rich garments. The person, a man, is surrounded by other figures, including a scribe, two children, and a woman weaving a fan. The scene is completed by the image of two peacocks under two Greek inscriptions: *APA* (Ara) or *XAPIS* (Charis) and *NIKH* (Nike) (fig. 2.6). While the former word is still in discussion (in Ancient Greek, Charis would mean “grace”), the latter, Nike, clearly means “victory”. Below the man is a Kufic inscription within a *tabula ansata*, with letters of greyish colour on a blue background. The inscription was recently investigated on the occasion of the new discoveries linked to the ongoing conservation project. On three lines, the inscription clearly begins with a *basmala* formula (*bismi-Llâh al-rahmân [...]*) and reads:

- 1) In the name of God, the Most Gracious, the Most Merciful. There is no God except
- 2) God, unique and with no associates...
- 3) God ... God ...

Above the richly dressed man a different scene is displayed. Two sitting figures appear on the two sides of the building’s southwestern window. They are seemingly thinking, and recent interpretations suggest they may



2.4. Main hall



2.5. Aisle IA (west)



2.6. Aisle IA, south wall





2.7. Aisle IA, south wall, top, kufic inscription



2.8. Aisle IB (central)



2.9. Aisle IC (east)



2.10. The so-called “throne room”

represent the two prophets Jonah and Job, based on fragmentary Greek letters found above their heads. Between these two figures, and just above the window, there is another Kufic inscription, which has been recently reinterpreted after the discoveries brought along by the ongoing conservation project (fig. 2.7). The inscription is composed by three lines in white color over a blue background. Initial studies carried out on the inscription (Imbert 2012) propose the following interpretation:

- 1) O God, make al-Walid b. Yazid virtuous the way you did with your
- 2) pious servants ! Surround him with the freshness of mercy, O Lord of the worlds
- 3) and for your community, eternal ... the religion the day of ... all the....

Should the interpretation confirm exact, this inscription represents a key chronological reference for Qusayr ‘Amra because, while referring to al-Walid bin Yazid (late Walid II), it does not mention the traditional caliph epithets of *‘Abd Allāh* (God’s servant) and *amīr al-mu’minīn* (prince of the believers). This brings us to believe that the text is referred to prince al-Walid bin Yazid during the long years of the reign of Hisham bin Abd el-Malik and before his accession to the throne. This hypothesis may date the text, and thus the building, to the years of Hisham’s reign, between 724 and 743 AD.

In the **central aisle** (figs. 2.2, aisle IB, and 2.8) the lower part of the paintings, at the level of the arches, displays a series of richly dressed women and men within natural and architectural settings. The upper part starts just above the arches and extends to the whole vault. The decorative space is divided in 32 squared spaces framing human figures engaged in a variety of leisure and other activities such as music, love and sports.

The **eastern aisle** (figs. 2.2, aisle IC, and 2.9) is mainly characterized by scenes of onagers’ hunt and killing, variously displayed on its eastern, southern and western walls. The vault is the most remarkable element of this aisle, and provides a comprehensive catalogue of different types of construction works. Divided in small, squared and framed fields, the vault depicts activities which presumably contributed to the construction of the monument. They are represented in four lines of eight squares each, and each line represents a different series of activities: blacksmiths

while they are forging metal; carpenters shaping wood; masons while squaring stone blocks; labourers while preparing mortar and so forth. Each of these activities are represented in temporal sequence, from obtaining the raw material to producing the final results.

To the south, the main hall continues into the so-called **throne room** (figs. 2.2, room II, and 2.10). The key image is depicted on its southern wall and displays a person sitting on a throne and sided by two characters. Above this representation there is a poorly conserved inscription which mentions a “crown prince of the Muslim men and women” (*walī ‘ahd al-muslimîn wal-muslimât*). The eastern and western walls are also decorated with a sequence of men and women wearing rich garments and surrounded by Corinthian columns supporting semi-circular arches within a natural setting. On the two sides of the throne room there are two small doors that allow access in the **two alcove rooms** (figs. 2.2, rooms III and IV, and 2.11). These rooms are richly decorated with phytomorphic patterns representing curly vine tendrils, pending grapes and rich, geometric mosaics on the floors. The lower part of the walls is decorated with architectural motifs and fake marble slabs.

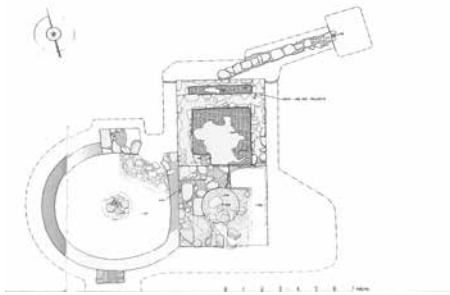
Paintings also cover the bath area, particularly the upper part of the walls and the vaults. In the **apodyterium** (figs. 2.2, room V, and 2.12), the barrel vaulted ceiling is decorated with a net of rhomboids created by sequences of phytomorphic patterns, probably palmettes. The rhomboids frame various human and animal figures, including a musician bear, gazelles, herons and dancers. In the centre of the vault there is a series of three human busts (a boy, a young man and an old man) which have been interpreted as the representation of the cycle of life. The two lunettes in this room are also decorated with figurative scenes: a man with a winged Eros, mourning over what has been interpreted as a body wrapped in a shroud; and two people, a woman and a man, seemingly looking at each other through the eastern window of the *apodyterium*.

In the **tepidarium** (figs. 2.2, room VI, and 2.13) the cross-vaulted ceiling is decorated with phytomorphic patterns of intertwined leaves. These patterns extend to its northern lunette, above the window, where they are enriched by curly vine tendrils and pending grapes framing images of animals (a lion, a hare) and of a man collecting grapes. The other three lunettes display figurative scenes with women and babies, possibly at the bath and within an architectural setting. The dome ceiling of the **caldarium** (figs. 2.2, room VII, and 2.14)



2.11. Mosaic floor in eastern alcove room

2.12. *Apodyterium*2.13. *Tepidarium*2.14. *Caldarium* dome



2.15. Plan of the second *saqiya*, after Almagro 2002



2.16. Newly discovered structure near structure 7



2.17. Aerial image of Qusayr Amra, courtesy APAAME

displays a representation of the zodiac, which is thought to be the oldest extant spherical representation of the northern sky.

### 2.3. THE ARCHAEOLOGICAL SETTING

A system of animal-driven wheels, a *saqiya*, extracted the groundwater and ensured its availability to the baths complex and the surrounding agricultural or garden environments. North to the main monument building a **first *saqiya*** (fig. 1.2, structure 11) includes a circular riding area for the animal (fig. 2.2, area XI), a 30 meter-deep well (fig. 2.1, area X), and a cistern for water storage (fig. 2.2, area XII). The cistern is placed more than two meters from the ground, to ensure that water had enough pressure to flow through a complex set of channels and feed the bath complex. These channels were explored for the first and only time by the Spanish mission in the 1970s (Almagro et al. Unp. Report; 2002). The cistern was filled by using a mechanical system consisting of a lifting device (*nouria*) operated by a donkey or a camel turning around a central post, transmitting the movement to a system of buckets reaching into the water table. A guard room (fig. 2.2, room XIV) possibly ensured monitoring of this activity. To the west of the hydraulic system a spur wall (fig. 2.2, area XIII) probably protected this hydraulic system and the baths complex from the overflow of Wadi al-Butum, an event still occurring in Qusayr ‘Amra from time to time.

A **second *saqiya*** is located approximately 300 m southeast of the baths complex (fig. 1.2, structure 14), presently on the opposite side of the Amman-Azraq highway built in 1985, and was excavated in the 1970s by the Spanish archaeological mission. The *saqiya* is located on the river bank of Wadi al-Butum and it is similar in every respect to the one described above, also with a cistern, a well and circular riding area (figs. 1.6 and 2.15), with the difference that the cistern is located at ground level and to the north of the well instead of east. Supposedly, its function may have been that of irrigating the surrounding agricultural fields or the *paradeisos* – a garden with water, plants and wild animals for hunt. The remains were still well visible in the 1970s, but a recent survey of the area has verified their progressive deterioration and destruction by the combined action of natural agents and human illegal excavations.

Northwest to the main monument building is the palace or



*qasr* (fig. 1.2, structure 3), a squared alignment of archaeological debris with two projecting units on its northern side, presumably two defence towers, and one on its southern side, possibly the doorway (fig. 1.8). Besides some archaeological surveys in the 1970s and some aerial imagery analyses in recent times, there is no extensive investigation or study of the *qasr*. One possible interpretation suggests it may have provided the living spaces for those benefitting from the main baths complex and from other relaxing activities in Qusayr ‘Amra. Other scholars think that the building was never completed and that it was abandoned before it could ever be used. No matter the function, the *qasr* is undergoing a progressive process of dismantlement, as it is demonstrated by the compared analyses of old and recent aerial photographs of the area.

Few meters southeast to the *qasr*, almost facing its supposed entrance, an archaeological campaign in 2002 identified the existence of a small **mosque** (fig. 1.2, structure 4) and excavated part of its western and northern walls, including the mosque’s *mihrab*. The excavations suggest that the building dates back to Umayyad times and that it was never completed. A possible alternative in this regard, however, is that it was a *musalla*, or open air mosque (Genequand 2000). The structure is now almost completely destroyed and little remains of the two/three courses of wall bricks that were excavated a decade ago.

**Other archaeological remains**, still to be investigated, include: a watchtower (fig. 1.2, structure 6), located few hundred metres south-east of the *qasr* and surveyed by the Spanish team in the 1970s; a series of caves (fig. 1.2, structures 2 and 5); a ford or dam across the river bed of Wadi al-Butum, slightly south to the *qasr* (fig. 1.2, structure 1); and possibly some further protective walls, east and northeast to the main monument building (fig. 1.2, structures 8, 9 and 13).

A newly identified structure between the main building and the visitor center has roughly cut stones of local origin with silica intrusions, very friable, set in a mud mortar (?). A lime mortar floor was found in one of the rooms of this building, alongside what has been interpreted as a *taboun*. In another section of the building, possibly a separate room, more than 10,000 glass tesserae and tesserae chips were found (fig. 2.16). These tesserae were probably cut in place and stored here before being used in some of the rooms of the building, possibly in the alcove rooms, where the floor mosaics also used glass tesserae for the greens and reds, and in the *caldarium*, where the pendentives and the niches were decorated with mosaics, now disappeared, although some traces of tesserae and of their bedding layer still exist. Here the chromatic range must have been wider than in the floor mosaics, as the cleaning of the floor of the *hypocaust* and the soundings in the room found nearby in 2012 have revealed the presence of yellow, green, black, red, blue *tesserae*, as well as gold and silver leaf tesserae that were commonly used as background in wall and ceiling mosaics. The structure found in 2012 is apparently associated to two other structures previously identified as rooms (fig. 1.2, structure 7), which may instead be pools for slaking lime. If confirmed, the entire area (which includes the edge of a quarry, also identified in the vicinity of the *qasr*) may be related to temporary structures used for the construction of the bath house.

#### 2.4. SITE PLANS AND SURVEYS

The first plan of the complex was drawn by Musil in occasion of his early visits. Only in 1974 new plans with precise topographic features were drawn during the work of the Spanish mission. These plans were updated by Bisheh and Vibert-Guigue on the occasion of their investigations conducted in the early 1990s and published in 2007 (Vibert-Guigue and Bisheh 2007).

A new topographic plan was prepared by the DoA in 2012 – 2013 as part of the present conservation project activities, and in support of the definition of the site boundaries (fig. 1.3). An archaeological survey was also undertaken in 2013 as part of the conservation project. This work, still ongoing, has allowed the



identification of a number of prehistoric sites (Lower, Middle, and Upper Paleolithic, Epipaleolithic, and possibly Neolithic and Chalcolithic), witnessing the importance of Wadi al-Butum for hunting practices since the early prehistory.

### 2.5. PHOTOGRAPHIC DOCUMENTATION

The photographic documentation on Qusayr ‘Amra illustrates the evolution of the site and its surrounding context since early discovery through the present day. These images also chronicle the various conservation interventions. Archival documentation on Qusayr ‘Amra is distributed in a variety of public and private institutions in Jordan and abroad. While this is not unusual for many sites throughout the world, it is indicative of the challenges in investigating the history and changes at the site.

As a component of the joint conservation project currently implemented by the Department of Antiquities of Jordan (DoA), the World Monuments Fund (WMF) and the *Istituto Superiore per la Conservazione e il Restauro* (ISCR), a collection of historic photographs was identified by WMF and the DoA. Copies of key images were secured for enhanced documentation of the site, and they were placed at the DoA. This activity engaged a number of institutions holding photographic collections and other archival materials on Qusayr ‘Amra, including: the Academic Society of Alois Musil (ASAM) in Prague, the Grabar archive at the University of Michigan, the Gertrude Bell archive in Newcastle, the Creswell archive at the Ashmolean Museum in Oxford, the Lankester-Harding archive at the DoA, the Jaussen and Savignac archive at the *Ecole Biblique* in Jerusalem, the Horsfield archive at University College London, the Laboratory of Archaeology at the University of Granada in Spain, the Rockefeller Museum in Jerusalem, and the Aerial Photographic Archive for Archaeology in the Middle East (APAAME) at the University of Western Australia.

The existing documentation spans from the early discoveries of the site in the 19<sup>th</sup> century to recent conservation works in the 21<sup>st</sup> century, and includes photos by:

- Alois Musil, dating between 1898 and 1901;
- Antonin Jaussen and Raphael Savignac, dating between 1911 and 1914;
- Gertrude Bell, dating to 1914;
- George Horsfield, dating between 1926 and 1936;
- Sir Keppel Archibald Cameron Creswell, dating to 1930s;
- John Whiting, dating to 1937;
- Gerald Lankester Harding, dating between 1930 and 1943;
- Oleg Grabar and Fred Andereg, approximately dating to 1962;
- the Aerial Photography Archive for Archaeology in the Middle East (APAAME) of the University of Western Australia, dating between 1997 and 2002 (fig. 2.17).

These materials will be used to create a physical and virtual repository at the DoA, with the ultimate purpose to facilitate national and international research and conservation works at Qusayr ‘Amra and in the surrounding areas.





## **SECTION II**

### **SITE ASSESSMENT AND ANALYSIS**

**Chapter 3 – Physical conditions**

**Chapter 4 – The management context**

**Chapter 5 – Site significance and values**

**Chapter 6 – Summary of conditions, risks and key issues**



Northern side of main structure

## CHAPTER 3 – PHYSICAL CONDITIONS

### 3.1. CONDITION ASSESSMENT

This section describes the conditions of the site as found during the documentation work conducted for this Site Management Plan (SMP). As for the assessment of the conservation conditions, it includes also a description of the site conditions found in 2010, at the time of the first investigations undertaken to prepare for the currently ongoing project jointly implemented by the Department of Antiquities of Jordan (DoA), the World Monuments Fund (WMF) and the Italian *Istituto Superiore per la Conservazione e il Restauro* (ISCR).

#### 3.1.1. Infrastructures

##### *Service roads and highway*

The site is located along the highway joining Amman to Azraq, which was built in 1985 at the time of the inscription of the site in the World Heritage List. The road drives across the archaeological area (fig. 1.2) and separates its eastern features (*saqiya* and big eastern U-shaped wall) from the whole rest of its western remains (main monument building and adjacent structures, *qasr*, watchtower etc.). Because it is built on a typical earthen road embankment aimed at levelling the ground altitudes, it impacts on the overall perception of the archaeological site and influences its perceived authenticity<sup>3</sup>. The highway has a negative impact on the site's integrity too due to the noise and pollution it produces and as it is also highlighted in the retrospective Statement of Outstanding Universal Value (SOUV). According to the Ministry of Public Works and Housing no plan is foreseen in the coming biennium 2012-2014 to modify the highway in this specific stretch. The enlargement of the road is however envisaged in the medium/long term, and this will require accurate heritage risk and impact assessment by the DoA.

Additional infrastructures include two dirt roads allowing access to the open steppe plain. The first one departs from the highway 100 m north of the entrance to the site, and drives towards west. This track follows a long earthen berm approximately a meter high, consisting of earth, stone and gravel scraped from the nearby surface with a bulldozer. This berm is more than 2 km long and was apparently made ten years ago, probably by the Forestry Department to mark the edge of the Wadi al-Butum protection area, but it has caused considerable damage, scarring the surface of the steppe within the archaeological area (fig. 3.1). The dirt track splits at the watchtower and its main track leads to the south, towards the *qasr*, Wadi al-Butum and the water basin recently built by the Ministry of Agriculture. The other track continues to the steppe and the illegal quarries, as well as to the dam in Wadi al-Harth.

The second dirt road departs from the highway approximately 500 m south of the entrance to the site and drives again towards west. The road leads to a farm located 400 m south of the site's southern fence, whose construction must be dated between 1985 and 2000 as per available information.

<sup>3</sup>As road embankments are often constructed using material obtained from a cutting, it would be important to assess whether this also applies to the case of Qusayr 'Amra and, if so, where the cutting was done and whether this may have altered the stratigraphic sequence at the site. If this is not the case, it would be important to ascertain the origin of the materials used for the embankment, as this would allow discerning local from non-local earth and debris. In both cases the embankment has seriously hampered the possibility to join eastern and western stratigraphies in one unique archaeological profile, thus influencing the possibility to interpret the interconnections between the two parts of the site.





3.1. Dirt track and berm within the archaeological area, possibly built by the Ministry of Agriculture.

Further along in the direction of Amman, a paved road 2.5 km long leads to an area to the south of Wadi al-Butum, which includes a large paved area and a paved road encircling an area of approximately 800x700 m, with a number of perpendicular roads further dividing this area. This area was built for a meeting of King Abdallah II with the Beni Sakher tribe in 2003 and has not been used since. At the northeastern corner of this area there is a small fenced area with a small house used by the Ministry of Agriculture.



3.2. Water basin and dyke 500 m west of Qusayr ‘Amra

*Water, sewerage and electricity*

Water supply at Qusayr ‘Amra is provided by water tank cars periodically coming from Amman. Basic needs are further fulfilled by a set of water reservoirs located above the bathrooms’ building and hidden by a wall. A septic tank buried under the bathrooms ensures adequate disposal of wastewaters, particularly those deriving from the bathrooms at the visitor centre. Electricity is also available at the visitor centre, which reaches the place via a diversion from the main electric line accessible on the main road.



3.3. Parking area

A deep well from which water is pumped into tanks to provide water for sheep and goats herds was built on the eastern side of the road to Azraq by the Ministry of Agriculture, 300 m north of the access road to Qusayr ‘Amra.

The main electric line on high pylons is located approximately 500 m east of the highway, while a second electric line was recently buried underground on the eastern side of the highway embankment.



3.4. Visitor centre

*Flood risk management infrastructures*

During the rainy season Qusayr ‘Amra is occasionally subject to floods due to heavy torrential rains that are not immediately absorbed by the ground. The most recent occurred in 1994, when in some parts of Wadi al-Butum the water level reached up to 60-70 cm height. In that occasion, the geomorphology of the area channelled the strongest water stream through the Wadi’s southern branch, thus diverting its harsh impact from the main monument building. However, this did not prevent the site from being flooded. The southern branch of Wadi-al Butum normally flows below the Amman-Azraq highway through a series of cement pipes which in that occasion were

obstructed by large quantities of debris brought along by the heavy water stream. Water thus remained blocked west of the highway, in an artificial basin delineated by: the highway embankment to the east, a levee to the north/north-west, and the southern branch of the Wadi to the south. The monument building and its adjacent structures contained therein were flooded, with water and mud attaining up to 60-70 cm inside and outside the building.

Following this event, between 1995 and 1996 the DoA, the *Institut français d'archéologie du Proche-Orient* (IFAPO) and UNESCO jointly carried out the following set of flood risk reduction interventions:

- Cleaning of the Wadi's bed, to favour the water flow towards east and beyond the highway;
- Modelling of surfaces and heights, again to foster water flow in its natural direction, to the east of the site and highway;
- Construction of a dyke with stoned gabions and earth to close the northern branch of Wadi al-Butum and thus divert floods in the future.

More recently the Ministry of Water and Irrigation also intervened in the area to address the problem of floods and provide a water reserve. In that occasion, a water reservoir of 40,000 m<sup>3</sup> and its adjacent earthen dyke were built approximately 500 m west of the main monument building, at the junction between the northern and southern branches of Wadi al-Butum (fig. 3.2). No further floods since 1994 have affected the area, which could have been the case in 2013 due to a high seasonal rainfall in winter.

### 3.1.2. Facilities and services

#### *Access and parking*

The site is located along the highway joining Amman to Azraq and leading to Iraq and Saudi Arabia and its presence is indicated by a series of road panels. Consistently with general practices in the country, the panels for Qusayr 'Amra are brown with white text and stand along the road in proximity of the site along both lanes, directions Amman-Azraq and Azraq-Amman.

A paved road of about 150 m opens on the western lane of the above-mentioned highway and leads to the site's parking lot of about 1,600 m<sup>2</sup>, whose renovation is contextual to the construction of the visitor centre in the late 1990s. The parking area is unmarked and cars and buses usually park side by side in front of the wall limiting to the east the front of the visitor center, or in front of the fence running along the southern edge of the parking area. In busy days, it may be dangerous to walk between buses and cars to reach the entrance to the site, as foot paths do not exist (fig.3.3).

#### *Visitor centre*

The new visitor centre was established in the late 1990s through a joint project of DoA, IFAPO and the French Embassy and it was inaugurated in 1999. It was constructed not far from the previous visitor facilities (a guards' room and the toilets) and it is composed of four buildings joined together through an open, shaded walking area. The construction is fully made of stone, so as to blend easily in the overall steppe landscape, and includes (fig. 3.4):

- Guards' room, for sheltering the security personnel. The building is further sub-divided in two rooms and one hosts a ticket counter. No ticket service is currently in force at Qusayr 'Amra, thus the public function of this specific space remains unexploited;
- Toilets with running water service ensured by water tanks placed on rooftop and hidden by a wall. Toilets are cleaned and maintained on a regular basis and they appear as the most appropriate toilets



along the whole itinerary of the Desert Castles (Qasr al-Kharraneh-Qusayr ‘Amra, Qasr al-Azraq and Qasr Hallabat);

- Exhibition room, opening on the shaded walking space and consisting in one room fully dedicated to the explanation of Qusayr ‘Amra and its context. The room was designed and arranged in 1999 and contains 13 informative boards hanging in a line all over its four walls. They address four key topics, one per wall: i) the discovery of Qusayr ‘Amra; ii) the description of archaeological area with all key remains; iii) the presentation and description of the mural paintings and their iconography; iv) the chronohistory of the Umayyads. The exhibition is integrated by a scale model of the site, which provides a useful global understanding of the area and of the interconnection between the various archaeological structures. A showcase is also available and displays some of the artefacts recovered at Qusayr ‘Amra during archaeological campaigns. Three smaller showcases facilitate children’s understanding of the site through educational materials.
- A room used by the guards at night and a small electric room also used for storage.

The visitor center is in relatively good conditions, although the woodwork of the window fixtures and of the shaded areas has not been maintained for some time and needs to be repainted and in some cases replaced. Toilets are regularly cleaned but should be updated with seated toilets, since the Turkish toilets are uncomfortable for the average tourist.

### *Paths and shelters*

The visit and global understanding of Qusayr ‘Amra much relies on the strategic planning and development of its visiting infrastructures, which in this case account for:

- Paths, to reach the key features of the site;
- Shelters, to protect visitors from the heavy sun and heat.

A first path leads from the site’s entrance to the visitor center and it has broken paving stones that need to be replaced, especially at the beginning of the path. Along this path, the posts and chain that channel visitors towards the visitor center are broken and should be replaced.

A winding path joins the visitor centre to the main monument building and adjacent structures, and its itinerary follows the longest trajectory between these two points. The path was recently rearranged by the MoTA and is marked by stone alignments<sup>4</sup> along its borders and by a series of iron stakes holding a rope, in a navy style (fig. 3.5). Many stakes have been kicked out of place, and in several spots the rope is laying on the ground, giving the impression that the site is not being maintained.

In 2012 the path’s natural surface was covered with black tuff stones which were aesthetically unpleasant and difficult to walk on. DoA was able to have this intervention reversed by MoTA. The path crosses a wooden pavilion that allows visitors appreciating the global view of the site and its contextual environment whilst resting in the shade. A board has been placed here, providing explanation on the surrounding landscape with its natural and man-made features. The board needs to be replaced as it is discoloured and broken. The pavilion itself has never been maintained: the woodwork needs replacement, as well as the broken stones facing the four pillars supporting the woodwork of the small structure.

---

<sup>4</sup>The stones used to mark the path appear very similar to those of the *qasr*, approximately 600 m west/northwest to the main monument building. Although it has not been demonstrated, it seems that the company who realized the path used the *qasr* as a stone procurement area, thus further damaging this unexplored site. Should this prove correct, more control will be needed in the future to prevent this from happening again and to ensure that such type of interventions is sanctioned as per legal provisions.

Closer to the site, a sign installed about ten years ago is now illegible and should be replaced or eliminated (fig. 3.6). The path ends here, approximately 20 m before the building. Tourists and visitors are free to circulate around the site.

The path is probably long, and it has been observed that often tourists follow it when going to the main monument building, but cut through the site when they leave. No other path exists nowadays at the site to join the building with other archaeological structures located in the surrounding area, at few hundred meters from it. This plays a substantial role on visitors' perception of the extension and complexity of the site, and needs to be targeted through a strategic accessibility plan capable to communicate all key cultural and natural features of this World Heritage Site.

#### *Site protection infrastructures*

The reconstructed *saqiya* was in dangerous conditions in 2012 as its woodwork had deteriorated to breaking point. Emergency work to avoid its collapse was conducted in 2012, but the entire system should be maintained and possibly replaced with new wooden elements. A wooden handrail is placed at the edge of the *saqiya*'s well, but it should be maintained and given protective oils regularly to avoid cracking and splitting.

Inside, a wooden barrier running along the walls of the main hall is designed to avoid contact with the mural paintings, but at the same time it encourages people to climb it. From there, they can reach the paintings and write or scratch graffiti. The two alcove rooms have their entrances blocked by this barrier, but as the graffiti in these rooms show, this is not a deterrent for visitors to jump over it and access the rooms. As part of the present project, the barrier system will be redesigned.

The *apodyterium* does not have barriers inside, while the *tepidarium* and *caldarium* rooms have a wooden platform above the *pilae* and barriers in the same style as in the main hall.

#### *Hospitality services*

A Bedouin tent is installed in the parking lot at the entrance to the site and is managed by a member of the Beni Sakher tribe.



3.5. Path leading to the main structure



3.6. Illegible signage on site



3.7. Bedouin tent at entrance of site, managed by a member of the Beni Sakher tribe.





3.8. Wadi al-Harth dam



3.9. Illegal quarrying and construction material dumping in the vicinity of the site

tribe of Beni Sakher, the main tribe of this region (fig. 3.7). The tent has been installed upon permission issued by the MoTA and provides a basic cafeteria service with tea, coffee and water, together with a small selection of souvenirs. According to the tent manager, Mr Hakeem Soud al-Sabealah, there is good potential to further develop this service and to include also some lodging facilities, again in the style of one or more tents. An authorization in this regard has been repeatedly asked to the competent authorities, but no positive answer has come so far.

### 3.1.3. Regional and local development contexts

Qusayr 'Amra is located in the Governorate of Zarqa and, at a smaller scale, within the Municipality of Azraq. No development plan or strategy seemingly exists nowadays at either level. Rather, development works are apparently undertaken on a short-term basis, depending on emerging needs. Some short-term projects and other

activities currently exist in and around Qusayr 'Amra, which bear an impact on the site and which are thus relevant mentioning in this paragraph:

- A water harvesting project in the catchment area of Wadi al-Harth, currently implemented by the Ministry of Water and Irrigation in collaboration with the Ministry of Agriculture (fig. 3.8);
- Quarrying activities, apparently carried out with no legal endorsement but hardly monitored and halted and thus seriously affecting the area (fig. 3.9);
- Socio-economic development activities, carried out by local entrepreneurs upon approval of competent authorities;
- The development of infrastructures, particularly the broadening of the highway by the Ministry of Public Works and Housing;
- Preservation of the ecosystem in response to its increasing deterioration due to uncoordinated actions.

#### *The water harvesting project*

The water harvesting project is implemented by the Ministry of Water and Irrigation in collaboration with the Ministry of Agriculture to ensure groundwater recharge and the development of a rangeland area for livestock farming. With specific reference to the area around Qusayr 'Amra and Wadi al-Butum, the water catchment area includes one major dam, three check-dams and three water reservoirs.

The major dam is located on Wadi al-Harth, upstream to Wadi al-Butum and about 3 km from Qusayr 'Amra, with UTM coordinates E2693 and N35243 (fig. 3.8). The dam collects water from a catchment area of 250 km<sup>2</sup> with average precipitation of 122 mm/year and an overall potential of 1,500,000 m<sup>3</sup> of water per year<sup>5</sup>. The dam is 4 m deep and has a capacity of 1,000,000 m<sup>3</sup>, thus leaving a minimum of 500,000 m<sup>3</sup> of water to the territory. The dam was built in 2011 by the Ministry of Water and Irrigation upon request and funding by the Ministry of Agriculture, which plans to install a rangeland area near the dam for grazing animals.

<sup>5</sup>The calculation is made as follows: area in km<sup>2</sup> \* mm/year \* 0.05 run-off coefficient.



The check-dams are small entities which, according to officers from the Ministry of Water and Irrigation, do not have a major impact on the surrounding environment in general and on the area of Wadi al-Butum and Qusayr 'Amra in particular. These dams are about 2 m deep and are located in the following areas:

- At UTM E2640 and N35230,
- At UTM E2665 and N35230.

They serve a catchment area of approximately 190 km<sup>2</sup> with 122 mm/year average precipitation and about 1,160,000 m<sup>3</sup> water runoff per year.

The water reservoirs are located as follows:

- One upstream of the dam on Wadi al-Harth, with capacity of approximately 50,000 m<sup>3</sup>;
- One on Shi'ban al-Butum, with capacity of 50,000 m<sup>3</sup>;
- One, of new construction, at UTM E2625 and N35225, with capacity of 50,000 m<sup>3</sup>.

As it appears clearly from all this information, this water harvesting system is absorbing an enormous amount (65%) of the average local water capacity, in an area with scarce human presence and with reduced opportunities to exploit this extra water reserve. The impact of this system becomes crucial in years such as 2012, when effective rainfall fell below the average level, thus aggravating water scarcity. What's more, increased drought in an area with about 30% evaporation rate entails excessive soil salination, a harsh and hardly reversible threat to the ecosystem. This means that a micro-environment such as Wadi al-Butum will soon start disappearing, with tremendous impact on the local ecosystem, national biodiversity and, last but not least, on the Qusayr 'Amra World Heritage Site itself, whose original construction was conceived exactly because of the existence of Wadi al-Butum nearby and the resources it offered for such settlement. Solutions may thus need to be envisaged in order to avoid this a natural catastrophe to happen, such as the removal of some dams or the development of alternative water collection systems. In this regard, a hint may be coming from ancient agricultural practices, with the creation of terraces to slow down water flow and ensure increased water absorption in the ground. These actions, however, will need careful discussion, planning and impact assessment, to avoid further negative impact on the territory.

### *Quarrying activities*

Illegal quarrying seemingly occurs around Qusayr 'Amra with some frequency, as proved by the frequent explosions reported by the conservators during the conservation campaigns. The impact of illegal quarrying on the site is two-folded: on the one hand, explosions and stone extraction destroy the peculiar environmental setting of the Jordanian badiya, a steppeland of clayey soils covered by a thin layer of chert (*hammadā*). On the other, the seismic movements<sup>6</sup> associated to the use of explosives may bear an impact on the stability of the main building and thus foster, on the medium to long term, the opening of new cracks in the walls.

According to the Natural Resources Authority (NRA) of the Ministry of Energy and Natural Resources, no quarrying activity has recently been approved in the area around Qusayr 'Amra, which makes any reported extraction illegal (fig. 3.9). Azraq-based inspectors from the NRA patrol the area, also in close collaboration with Royal Society for the Conservation of Nature (RSCN), and report to the Police. The intervention by the Civil Defence is reportedly immediate, within one hour from reporting. According to the consulted stakeholders, illegal extractors are very fast, and they succeed completing their work before the arrival of the competent authorities.

<sup>6</sup> In this regard, seismic monitoring by the National Resource Authority (NRA) may be recommendable in the area so as to have concrete understanding of the situation and to plan conservative measures accordingly.



### *Socio-economic development*

Qusayr 'Amra and the surrounding *badiya* have an enormous potential for the development of attractive, sustainable tourism and other related economic activities. The participation and involvement of local communities in this regard is of fundamental importance towards the long-term sustainability of the site. This type of action needs to be concerted and agreed upon both by competent authorities, particularly the DoA and the MoTA who need to provide backstopping and legal authorization to these activities, and by the local community, who needs to launch and implement new, entrepreneurial projects for the development of the area. At present these two stakeholders, institutional and local, face some communication challenges, as it emerged from stakeholders' consultations. On the one hand, the manager of the Bedouin tent providing hospitality services in Qusayr 'Amra reports that several requests were made to the MoTA and the DoA in order to broaden these services and set up a small tourist camp with tents. These requests were repeatedly rejected by the competent authorities with no clear justification. Discussions are currently ongoing with the competent authorities to find a solution for the promotion of tourism development on site and in the surrounding area.

### *Highway and roads development*

The most recent road dates back to 1985, when the highway was constructed few hundred metres from Qusayr 'Amra. No new road is currently planned in Qusayr 'Amra, as reported by the Ministry of Public Works and Housing in Spring 2012. A possible foreseen development could entail the enlargement of the current highway, but no action in this regard is planned for the coming two years 2012-2014. According to the Ministry, by procedural default all planned works are normally communicated to the competent authorities, including the MoTA and the DoA, for their inputs on relevant issues. Reportedly, the Ministry of Public Works and Housing is not aware of the national database of Antiquities (MEGA Jordan), nor does preventive archaeological/cultural impact assessment play a role in the design and construction of national infrastructures.

### *Preservation of the ecosystem*

The specific and extraordinary ecosystem of Wadi al-Butum is the environmental justification as for why Qusayr 'Amra was built there and it was recognized by the SOUV as an integral component of the site (fig. 3.10). Its preservation is thus of fundamental relevance for guaranteeing the authenticity and integrity of this World Heritage Site. However, the combination of recent development activities at and around the site (e.g. water harvesting, infrastructures development and illegal quarrying) seriously threatens this ecosystem. Particularly, the above-mentioned water harvesting project is drying up the soil of Wadi al-Butum and thus leading the *butum* trees (*Pistacia atlantica*) to death (fig. 3.11). No solution is on the horizon to this key issue. On the one hand, the Rangeland Department (Ministry of Agriculture), among the key supporters of the project, claims that water harvesting has minimal support on the ecosystem. On the contrary, the Forestry Department and the RSCN firmly reject the sustainability of these activities because they will lead to the desertification of Wadi al-Butum and to a major change in the overall ecosystem balance.

An environmental analysis of Wadi al-Butum was conducted between 2004 and 2009 by the Royal Botanic Garden (RBG), a Jordanian NGO (Addison et al. 2003). This analysis allowed the identification of plant and animal species living in the area, as well as the threats to the integrity of the biodiversity of the area. These threats were identified in: the installation of barriers and dams along the Wadi, which stop the natural flow of the water; the numerous illegal quarries which not only scar the steppe surface but also stop the flow of rainwater towards the wadi bed; the presence of parasites on the *butum* trees, which,

combined with the other factors already mentioned, are effectively stopping the growth of new *butum* trees and putting at risk the existing stock of approximately 600 trees. Although protected by the Forestry Department, this rare remnant of growth is not actively managed and all the plants are now at risk.

### 3.1.4. Physical conditions of the main building and architectural structures

Perimeter walls are made with stone blocks and a rubble core. In the lower part, ashlar are alternated with small flat horizontal stones as to make setting beds regular. The internal part of the wall is made of rubble of the same stone, randomly bedded in a gray and friable mortar mixed with ash. The masonry is about 75 cm thick, ensuring appropriate strength. Neither the great, slightly-pointed arches separating the two aisles in the main hall, nor the central aisle in the same hall have any buttresses.

The external wall color is homogeneous due to a thin ochre “earthy” patina which is constantly carried by the wind and covers even the lowest portions of mortar. Investigation on samples confirmed in *situ* observation. Surface polishing with soft brushes revealed the real, more grayish color of stones and mortars.

The rear facade of the monument shows traces of plaster covering the stones. Large portions are visible near the mortar joints where they can more easily adhere to the underlying layers. The surface of this mortar is treated with regular herringbone-patterned signs, clearly aimed at easing the connection between this and the final plaster layer (fig 3.12). The plaster also shows large gravel grains which were applied on top of it with the palm of the hand, in order to increase gripping of thinner layers of plaster for the finishing effect. The entire outer plaster layer and most of the preparatory layers, however, are lost. We cannot say whether the final layer of mortar was left in natural color, or painted.

Mortars are still strong and can be broken without crumbling. They are composed of lime with a number of aggregates in different proportions:

- bright red, sometimes grayish-brown *cocciopesto*;
- flint grains of different colors (whitish, gray, brown, reddish) and always characterized by chipping edges and conchoidal fractures;



3.10. Terebinth (*butum*) trees in wadi al-Harth



3.11. Dead tree as a consequence of deviating the water flow of the wadi in the site's vicinity.



3.12. Plaster on the rear facade of the monument, with regular herringbone-patterned signs



- alluvial sand made of carbonate stone grains of different color and type. As far as possible, stereomicroscope analysis found calcareous fossiliferous micritics (with foraminifera), flint limestone and, perhaps, marl limestone. Their color goes from whitish to light gray, from light brown to yellowish and orange;
- calcite and hydrous iron oxides (calcareous-limonitic “crusts”);
- white calcium carbonate grains –as shown by the positive result of HCl 2N micro-chemical test– probably carbonated lime “lumps” (*bottaccioli*) or carbonated slaked lime aggregates with “inert” function, according to a Byzantine technique;
- black, opaque, fibrous grains: fragments of charcoal and ashes;
- plant fiber marks.

Considering the large amount of calcareous aggregate, the weight ratio between the binder and the aggregate can be estimated around 1:3. Most of *cocciopesto* and plant fibers can be found in the surface finishing layers, while charcoal and ash are more common in the ones below.

Water-resistance in the extrados of the vaults is guaranteed only by plasterwork. The roof does not have gutters, and water is eliminated by sloping the spaces between the barrel vaults towards the southern side. The vaults are made of quadrangular stone ashlar. On top of them, four mortar layers were applied. The lowest, just above the stone core of the vaults, is made of lime mortar, ash and a thin inert charge of different color, serving as bedding for flat stone fragments. This layer was probably used to control the roughness of the vault's exterior core. Three other layers, with decreasing granularity, were placed on top of the one just described. The second mortar layer, with similar composition as the lowest, is about 1.5 cm thick. On its surface, grits of different nature and shape from 1 to 4 cm in size were applied. Several roundish areas created by hand pressure can be observed. Grit applied in this way supported the third layer of mortar, increasing its gripping properties. This layer is quite homogeneously 2.5 cm thick and includes aggregates of different nature (roundish stones, flint and *cocciopesto* fragments) and size, from 0.5 mm to 5 mm. It also contains a thinner particulate invisible to the naked eye. The fourth, finishing layer was applied to make the lower one even more uniform. It is only 1-1.5 mm thick, white, full of lime putty (*grassello*) and vegetable fibers, still identifiable in surface traces. The original look must have appeared very smooth and compact as it is still visible where the mortar remained intact.

Some important elements of the masonry such as the lintel or the entrance door's jambs are made of basalt stone, which can be found in Azraq, 25 km to the east.

#### *State of conservation*

The monument's state of conservation showed some worrying problems concerning the masonry. First of all, floods (including an episode as late as 1994) which may have caused the loss, somewhere almost total, of the original bedding mortar and of the mortar inside the core of the masonry in the lower 60-70 cm of the walls (fig. 3.13). The surfaces of the walls showed widespread fillings between the ashlar performed using cement mortars during previous restoration works. This cement, besides being aesthetically unpleasant, may have contributed to increased salt content, which is sometimes visible as efflorescence in the lower parts of the walls.

The ashlar of the exterior wall, made of light yellow sedimentary stone, appeared to be in overall good conditions. Some of them, because of their geological nature combined with the effect of atmospheric agents, show signs of de-cohesion and de-adhesion of the constituent material mainly near the most exposed and micro-exfoliated areas. There are also macroscopic fissures in the ashlar, along with micro-

fissures and de-cohesive areas. This may be due not only to pressure but also, as for those in the lower part, to rising damp. On the southern and northern walls, the ashlar removed in the past or gone missing exposed the cement core walls to rainwater infiltrations, which caused mortar losses inside the masonry. All along the perimeter of the monument, several graffiti are visible on the wall, even at a considerable height.

The vaults' extrados were in worrying conditions, due to the loss of the original mortar layers which exposed the rubble core, and allowing water to penetrate in the deeper layers of the vaults, affecting the painted surfaces inside (fig. 3.14).

The dome of the *caldarium* was heavily integrated in the early 1990s using cement mortar, which is in a very good status and undamaged by the serious biological attack affecting the original mortar. As it happens on the other vaults, here too the top mortar layer disappeared and the surface looks eroded and fragmented because of bio-deteriorating agents as well as wind effect and sudden change of temperature between day and night. As shown in the old photographs, most plaster on the dome was lost, leaving the masonry exposed.

The mortar layers on top of the vaults of the main hall show different preservation conditions. The most exposed –the eastern one– lost almost all three mortar layers and the stones placed right upon the structure were in plain view, so the risk of infiltrations on the paintings was very high.

The west wall is about 30 cm out of plumb. While the lateral thrust of the three vaults is properly resisted by the eastern wall adjoining the thermal bath, the western wall is free and not buttressed. The size of the shear wall supporting the last vault is clearly insufficient to resist thrust. The movement of the wall caused a deep longitudinal damage along the higher part of the vault, visible from both inside and outside. Spanish conservators and architects during the 1971-1974 campaigns tried to solve this situation installing a reinforced concrete beam in the wall by the last two rows of stones. The beam runs along the orthogonal facades up to the windows. On the inside, the damage was filled and covered with a yellow paint. On the outside, the intervention was more complex and maybe it was not carried out all at the same time. The gap on the extrados was covered in tar paper and filled with roughly smoothed concrete mortar, not caring about connecting it to the ancient mortar. In the 1990s, more fillings were performed.

The eastern vault was different from the other two for the lack of the second layer, which in the other two vaults is the layer with the presence of grits to increase its gripping properties. This particular feature may be the evidence of an ancient damage to the second layer, directly replaced by the mortar of the third layer during repairing works.

The monument is provided with rectangular windows in the higher part of the main body –placed inside the centering which closes the barrel vault– and with several circular openings about 20 cm in diameter. Some of them show a brick pipe, sometimes round, but more often rectangular in section. Some others show less regular openings possibly due to the loss of the internal pipe. On the outside, glass was set in a circular iron frame sometimes in the past 30 or 40 years to prevent water from entering the building. Many of these covers were either broken, missing, or had lost adhesion and allowed water to penetrate. On the inside, streaks and large eroded areas suggest that the glasses had been missing for a long time in the past, or that fillings were not waterproof.

Original windows are lost, and the monument had ten wooden frame windows (plus four iron framed in the *caldarium* dome) very damaged, with broken glass panes or left open, which allowed the ingress of water and pests in the building. Bird droppings and water stains are visible on the paint layers inside under every window.





### *Conservation interventions*

Before intervention started in 2011 within the DoA-WMF-ISCR project, chemical and physical analyses were carried out in order to verify the composition of the mortar and the aggregates, as well as the granularity curve. The observation of the exterior walls allowed detecting the presence of homogeneous mortars. It was immediately clear, and then confirmed by the analyses, that the whole building is covered by the clay dust typical of this part of the country. The “real” color of the mortar is white-grayish as often happens to lime putty (*grassello*) mortars. The use of ashes and coal as an additive or inert material makes this color more intense.

Biological deterioration on covering mortars was also analyzed in order to identify the most effective biocide. Surfaces were freed from sandy particulate through mild polishing; the areas affected by bio-deteriorating attacks were treated with Preventol R80 3% in deionized water applied in three phases with 7-day time-exposure between one treatment and next.

Cement mortars were eliminated where present and repointing was made with mortars complying as much as possible with existing ones, and aggregates follow the same criteria. All mortars used were composed of slaked lime putty matured for more than six months. DoA experts turned quicklime into slaked lime in barrels next to the work yard. The first stage of the intervention implied the choice of aggregates and of mortar color. White sand, yellow sand, wadi sand and *cocciopesto* were used. A warmer tone was preferred to the original grayish color of mortars, since it was closer to the clayey layer carried by the wind and covering the whole building. *Cocciopesto*-based hydraulic mortars were used for deep consolidation. Granularity analysis on ancient mortars allowed working out compatible mortars.

The first interventions on the exterior of the monument were conducted on the lower sections of the walls, affected by the loss of the bedding and core mortar. Lacunae were filled with stone chips up to 60-70 cm from the ground level. The filling was divided in two distinct operations: the former aimed at re-establishing the building's compliance with static safety requirements, the latter at protecting the surfaces from future deterioration.

The progression of the intervention on the outside perimeter of the building followed a number of phases:

1. Removal of Portland cement used in previous restoration works and of the stones used to fill the lacunae.
2. Cleaning of the surfaces from dust and earthy deposits using paintbrushes and medium-hard-bristled brushes.
3. Where necessary, the surface was made rough using a mortar made of inert and hydraulic charges of different granularity (binder: charge ratio = 1:3, *grassello*, sand, grit and *cocciopesto*) and stones of different sizes soaked in water to fill the gaps in the core wall. This allowed restoring cohesion within the masonry.
4. Missing ashlar were replaced by natural stones found nearby, with the intent to restore an organic and complete view of the surfaces without the interference of missing parts. In order to underline the presence of non-original ashlar, the perimeter filling was done slightly under the surface level.
5. In the same way, the finishing mortar used for the gaps between ashlar (binder: charge ratio = 1:3, *grassello*, sand, grit, volcanic sand) was applied slightly under the surface level to make the conservation intervention identifiable.

The final smoothing of the surfaces was aimed at easing rainwater flowing to the ground (fig. 3.15).

On the barrel vaults cement layers from previous restorations were mechanically removed with hammer,

scalpel and angle grinder with diamond cutting discs. Lacunae were reintegrated with mortars similar to the existing ones. A sacrificial layer was reconstructed in order to protect the original mortars, which are widely cracked and became fragile over time. To slow down erosion caused by atmospheric agents such as wind and sand, low and rough areas where water could stagnate were eliminated (fig. 3.16).

Consolidation of detached layers of plaster was tested on the alcove coverings, next to the bath. Consolidation with concrete of the longitudinal gap on the western vault, done during the Spanish intervention of the 1970s was found to be quite drastic. Once the first layer was removed and tar paper identified, cement and water repellent were carefully cleaned off. Tar made concrete consolidation ineffective and could allow water seepage. The concrete was gradually removed and replaced with a new lime-based mortar mixed with rubble. Afterwards, it was leveled off with finishing mortar.

Windows were replaced with similar wooden structures. Their broken shutters could be opened but not controlled, and they were replaced with fixed shutters to prevent animals from entering the building. Each one of the barrel vaults of the main hall originally showed eight openings delimited by a rectangular-section ceramic tube (about 6-8 cm per side). The tube was inserted in the masonry, probably to let some fresh air in and the steam out. Old openings were sealed by a glass supported by a metal ring, now rusted. They were replaced with glass rounded caps in order to avoid water stagnation, and installed without metal support to prevent glass from breaking because of metal expansion. Four openings on the western vault (west side) were found to be completely sealed with cement mortar, and were re-opened.

### 3.1.5. Physical conditions of the paintings in main building

The painted wall is made of squared local limestone ashlars installed using an interstitial mortar. The mortar is composed of siliceous inert materials of different granularity and color, and slaked lime. Often, the mortar is also used to level off the roughness of the wall and make it smooth enough for the final layer to be spread. In addition, in some areas (lower part of the wall, splay



3.13. Hollow masonry at the bottom of the external walls, caused by flood (before conservation)



3.14. Exposed rubble core of the vaults' extrados, allowing water penetration and paintings' damage (before conservation)



3.15. Final smoothing of mortar in repointed areas



3.16. Application of layers of lime mortar on the vaults' extrados



of the window) grit of different granularity and color were scattered on fresh mortar in order to prevent it from shrinking when drying as well as to improve gripping for the final layer.

At the bottom of the wall, 4 cm thick fragments of bedding mortar from the skirting marble slabs can be observed. Marble slabs covered the whole aisle at a height of 50 cm and a few fragments have remained in the throne room. Slab slots are still visible on the floor. The plaster, without further preparatory layers, was applied right on the stone and it is mainly composed of plant fibers, slaked lime and an organic protein binder. About one centimeter thick, it shows an intense white color and quite a smooth surface although some unevenness can be detected.

Raking light inspection has revealed succeeding plaster spreading phases (*pontate*) from up to bottom (fig. 3.17). The upper “*pontata*” is divided in two “*giornate*”, (a spreading of plaster corresponding in general to a day of work) the left one overlapping the right one. In some localized areas, mortar was probably added in order to correct unevenness. Signs of a presumably hurried and sometimes non-homogeneous work are visible on smooth surfaces close to rougher and irregular areas. Plaster smoothing seems more accurate in the lower part, intentionally simulating marble. No traces of direct or indirect incisions were found. The preparatory drawing, which outlines figures and major decorations, is orange-red colored. Another element of the pictorial technique is represented by the preparatory drawing performed right on the rendering, which can be glimpsed in the lacunae of the painted layer. Wide traces of red and yellow colors can be noticed near the lateral figures’ garments and should be assigned to this preparatory phase.

The sequence of pictorial levels appears to be complex. A first drawing of the figurative scheme may have been traced when the preparatory layer was still drying. This could have allowed cohesion between pigments and plaster. Blue backgrounds especially can be assigned to this phase.

This first level was followed by a series of pictorial layers performed using binder. In this phase, characters’ complexion and probably hair, now missing, as well as other pictorial details were completed. In the southern wall of the western aisle, white circles and highlights on the folds of the main character’s garment; the furnishing, the peacocks’ plumage, and the Kufic Arabic inscription at the top of the lunette belong to this phase. In particular, the *tabula ansata* shows two different spreading phases of blue paint. For the first one, fresco technique was used. Whereas the second, thicker application was performed on dry walls where the binder have caused cracking (*cretto*). On this surface, ochre letters were outlined in red and lined up by a blue horizontal line painted in relief on their upper edges.

The double spreading of blue paint is also noticeable on the main character’s foot and shows a *micro-cretto* on the first layer applied directly on plaster. The palette that was chosen reveals a large use of precious pigments such as lapis lazuli, which was spread on the background even if it was to be covered by more layers of paint. According to the analysis of pigments, elements such as lead and arsenic (white lead and orpiment), natrojarosite, calcium hydroxide (*bianco Sangiovanni*), ochre, lapis lazuli, minium and cinnabar are part of a complex and variegated palette of natural and synthetic pigments, some of which may have been hard or very expensive to obtain.

### *State of conservation*

The constant use of the area as a shelter by local tribes and its remote location caused the loss of large portions of plaster. This was due to incisions and graffiti, affecting not only the lower part of the walls but also the upper area—in some points severely damaged—and mainly delicate details such as the characters’ faces (fig. 3.18).



Since the rediscovery of the monument in the late 19<sup>th</sup> century, surface cleaning efforts –even though not always appropriately performed– allowed a better visibility on the one hand, and accelerated the deterioration of constituent materials on the other. A large portion of the pictorial film applied on dry plaster (*secco* technique) was lost also because of aggressive cleaning methods, which totally depleted the binders and damaged the plaster on most exposed areas. As a consequence, surfaces appear to be more opaque than they probably were, and widely incomplete. Lead-based pigments underwent major alterations, turning from white to dark grey tones. Some of the substances used to perform aggressive cleaning in the past, may have favored the alteration and change of some original pigments. Furthermore, dust and birds caused deterioration, as testified by traces of carbonate and oxalate concretions caused by water percolation polluted by animal dejections identified below the windows. These concretions are combined with large soot residues and yellow substances.

In the middle 1970s, the monument was subject to an extensive restoration intervention aimed at preserving the masonry and plaster and, at the same time, at reintegrating the paintings. At that time, the detachment of the western wall from the southern one was filled with rubble and cement mortar. Detachments of the preparatory layer from the masonry (*de-adhesion*) were secured with vinyl resin. The edges of the widest lacunae or the lacunae themselves were sealed with cotton soaked in that same resin without performing any other filling, and they were covered with a yellowish tempera which, in some points, was applied on exposed stone walls and also onto parts of the original pictorial layer.

After partial cleaning, the paintings throughout the building (with very few exceptions) were covered with a layer of natural resin (*shellac*) (fig. 3.19). The polishing substance, more suitable to be used on furniture than to protect mural paintings, must have been applied in order to modify the refractive index of fading colors, made irreversibly opaque by previous interventions. At the time when it was applied, the shellac was more transparent but throughout the last 40 years it acquired a strong amber color, worsened by several layers of atmospheric fine particles due, among others, to tourism-related causes. In addition, the shellac layer now shows signs of contraction and is causing the lifting of the pictorial layer underneath. This shellac layer has extensive repaintings (fig. 3.20) in non water-soluble color overflowing in some of the lacunae. Traces of an additional, older brown shellac layer, a residue of previous interventions, were also found. These repaintings, identified for the first time by C. Vibert-Guigue (Vibert-Guigue and Bisheh 2007) in his study of the monument, substantially alter the iconography of the monument, as revealed by the recent project's cleaning efforts.

Large traces of coal residuals and coherent particles (*silico aluminates*) found in saline concretions of different nature, which were never removed, prevented the correct reading of some original details of the composition. Therefore, the objective of reintegration by the Spanish team was to outline with dark colors the characters and other figurative elements still visible. Some parts of the drapery, zoomorphic elements (*peacocks*) and geometric / decorative patterns (*squaring, tent*) were repainted more freely.



3.17. Raking light photo of South wall, West aisle, showing the plaster's spreading phases



3.18. Large lacunae affecting the pictorial layers



3.19. Layer of natural resin (shellac) applied at the time of the 1970's conservation



3.20. Repaintings can be noticed above the shellac layer. Here, the blues of the peacock are all recent additions.

Natural and man-made causes affected the pictorial film, widely scratching and whitening the surface. Some figurative details of the characters' profiles disappeared or fell. Countless lacunae can be found on the whole pictorial layer (lapislazuli blue background) or part of it. Therefore, when the present project began, the paintings of the south wall were scarcely visible, their colors were severely altered and the iconography was affected by the interpretation given by the Spanish conservators.

Being easily accessible, the lower band of the paintings with its faux marble decoration is the most affected by widespread and deep scratches. The pictorial film and the plaster also show intentional damages such as graffiti and incisions. The detachment of mortar from the walls caused large lacunae reaching the lower part, once covered with marble slabs. There are also traces of fire burning and black inscriptions.

In the lower band, moderate adhesion faults were detected between the rougher layer of mortar, the bedding mortar of the marble slabs and the masonry. There are also saline concretions. In the upper band, medium and large detachment areas were identified between the preparatory coat of rendering and the wall structure. Some stylized images of animals and symbols carved by Bedouins living in the badiya are historicized and of palaeographic interest (Betts 2001). These evidences were classified and analyzed; nevertheless they threaten the preservation of paintings: graffiti represent a discontinuity in the plaster and weaken its compactness.

#### *Previous interventions*

The reconstruction of the paintings' conservation history was deemed particularly significant to define the criteria for the new intervention. Methods and materials used over time were investigated, and their effect on the paintings and possible contributions to the deterioration processes. For this reason, all different restoration works carried out from 1898, the time of Musil's first visit, until 1996, year of the last intervention which was performed in compliance with modern criteria, were analyzed. Historical documents, restoration works' reports, published photographic materials and unpublished archive pictures supplied by many institutions were examined. The most important interventions affecting the appearance of the paintings are

due to Alois Musil, and to the Spanish group guided by Martín Almagro in the early 1970s.

The consistency of the paintings at the time of their discovery can be determined from the drawings by the Austrian painter A. L. Mielich and from the descriptions of the preservation status of the paintings “discovered” by Alois Musil in 1898 (Musil 1907). Unfortunately, the publication does not include the pictures that the author himself claims to have taken, and the description of the restoration techniques used is limited to generic information. Musil claims that he intervened on the paintings, mainly covered by noteworthy soot stains due to the Bedouins’ presence inside the monument, cleaning them with soda and soap and, later on, with a mix made up of Venetian turpentine, gasoline and alcohol. Probably, as a result of a first, aggressive cleaning, whitening signs appeared, hampering the reading of the paintings. Allegedly, he redefined the figures’ outlines and brightened the colors in order to improve the reading of the pictorial text. This may be the reason for the most ancient shellac traces forming the first layers overlapping the original pictorial film. This is also confirmed by the observation and direct comparison between Mielich's drawings and the pictorial surfaces.

Since the end of Musil's intervention, about 55 years passed until more systematic documentation was conducted, although photographs taken by travelers and scholars were retrieved from several libraries and archives, and are an important contribution to the research. In 1962, Ettinghausen took pictures which represent important evidence of the paintings’ conditions before the Spanish work.

About a decade later, professor Almagro and his team of Spanish restorers carried out a structural intervention along the western wall of the western aisle, and performed restoration works on the paintings inside the monument from 1971 to 1973, and in 1978-1979. No photographic evidence of the preservation status detected throughout restoration works in the early 1970s were found, except an unpublished report of performed intervention mentioning a “neutral color” painting of the lacunae and all the plasters on sight, which is still visible, although its color has a yellow-greenish hue. The comparison with Ettinghausen's documentation where the lacunae do not appear to be filled with cotton, allows us to determine that the use of such material and the overlapping colors and shellac are all to be assigned to the Spanish team's interventions. The reason for choosing such a vast reconstructive intervention may have been the effect of the cleaning performed at the beginning of the 20<sup>th</sup> century using inadequate methods. The Spanish team must have restored the paintings seriously affected by previous aggressive cleaning and on which Musil and Mielich had applied unifying and brightening materials, perhaps the older shellac identified in recent analyses. Furthermore, soot due to fires lit inside the monument must have re-deposited on the surfaces before the monument was declared a protected cultural site.

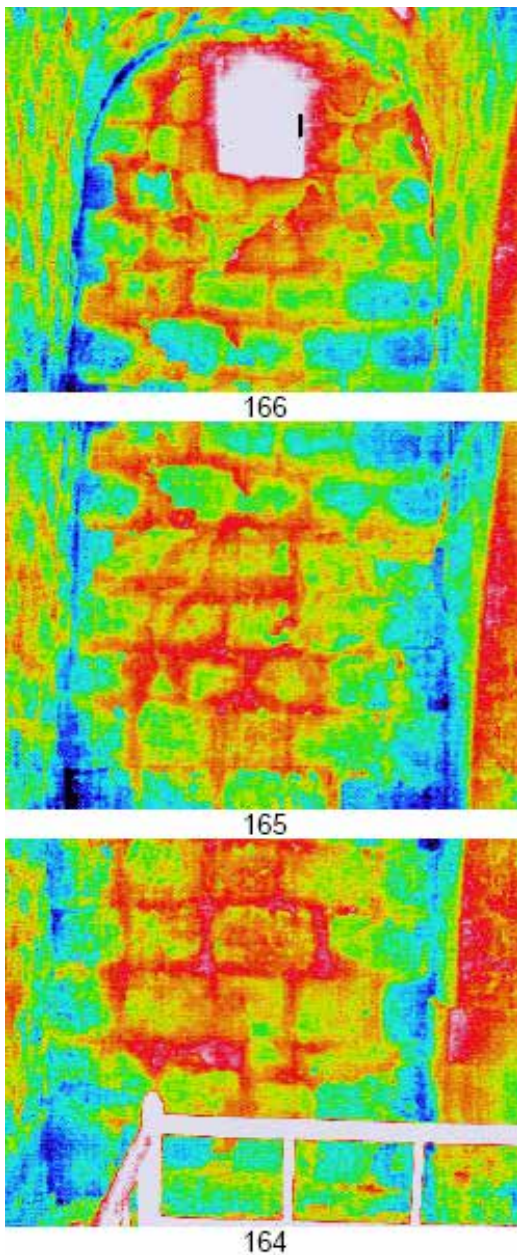
#### *Diagnostic analyses*

Diagnostic exams were aimed at describing the essential features of the paintings' constituent materials, the alterations they underwent over time, the chemical and physical composition of the substances applied throughout past restoration works, which may have interacted with the pictorial film, and defining alteration products developed over time. Analyses were conducted using Scanning Electron Microscope (SEM) microscopy and Energy-Dispersive X-ray Spectroscopy (EDS) analysis, Fourier Transform Infrared (FTIR) spectroscopy analysis, and Gas Chromatography–Mass Spectrometry (GC-MS) analyses.

#### *Conservation interventions*

The painted surface was graphically documented according to theme-based maps related to execution technique, state of preservation, previous interventions and the present intervention on the southern wall and lower band of the western wall. Claude Vibert-Guigue's drawings made between 1987 and 1992, and





3.21. Thermography of south wall of west aisle. The entire monument was mapped with this technique.



3.22. 3D model of Qusayr 'Amra, derived from a laser scan survey conducted by DoA in 2013.

published in Vibert-Guigue and Bisheh 2007, were used as a graphic base. Their high quality, accuracy and wealth of details allowed to compare the preservation conditions of the surfaces in the years 1987-1992 and their current status. High resolution photographs supplemented Vibert-Guigue's drawings.

Before, during and after the restoration intervention, an accurate photographic report of the surface conditions, different phases of the intervention and training activity throughout this whole period was conducted. Ultraviolet (UV) and infrared (IR) photography was also conducted, with interesting results showing details poorly visible or no visible at all to the naked eye.

A thermographic survey of the entire complex was conducted in February 2011, in order to visualize thermal discontinuities in the walls of the building. The survey allowed the visualization of the composition of the walls hidden beneath the paint layers, and the identification of areas which may indicate the presence of voids or of possible water infiltration (fig. 3.21). A new topographic survey, mapping the entire complex, and laser scan of the main building, was conducted for the purpose of producing a highly accurate 3D model of the site to be used in future phases of the conservation project, as well as for presentation and education purposes (fig. 3.22). The topographic survey was also used to produce a detailed plan of the archaeological area for the purpose of defining the legal boundaries of the site.

Environmental monitoring is being carried out since 2010, following the installation of sensors throughout the building, in order to measure variations in temperature and relative humidity in the structure. These measurements are particularly useful now, after the installation of new windows and covers that have effectively "sealed" the building. Comparing data with the measurements taken for a year before the installation of the new windows will help understanding the effect of this intervention on the stability of the environment inside the building.

The cleaning operations are complex and articulated in various phases, in particular because of the presence of the shellac layer, since the substance becomes irreversible with ageing and its removal required progressive treatments and particular care, in order to respect the original pictorial

layer. Before cleaning, Portland cement filling the joints was mechanically removed where necessary.

Since the very stiff and non-transpiring cotton filling of the lacunae had weakened the plaster, its removal required particular care. Cotton was softened with a mixture of demineralized water, acetone and ethanol, paying attention not to affect the painted surface. Once the cotton surface layer had softened, it was cut away small pieces at a time. This operation was repeated until its complete removal. Where the removal could have damaged the painting, cotton gauze soaked in acrylic resin solution was applied on the pictorial layer. This allowed the safe removal of cotton and ensured the adhesion of the detached areas. Afterward, the gauze was taken off with organic solvents and the complete removal of the acrylic resin was verified under raking light.

Adhesion faults between the plaster and the masonry were restored using a low-pressure injection of low-salt, ready-mixed hydraulic mortar. Emulsion acrylic resin was used to reattach small-size detachments and adhesion faults on the pictorial film. Before and after the cleaning, the painted surface underwent pH and electrical conductivity measurements. The cleaning consisted in removing over-applied substances: shellac, repaintings, older shellac traces and a grey-brown layer of organic nature. Shellac was made soluble and completely removed using a mix of organic solvents included in the solubility area of natural and synthetic resins. Carbonate and oxalate concretions and soot stains were also removed with appropriate interventions (De Palma et al. 2012).

Pictorial film losses and preparatory layer abrasions were treated with a light transparent watercolor glaze to reduce optical interference. The color shade was chosen according to the original one. For the graffito engravings considered of historical interest, their color intensity was softened by watercolor glazes. Following Cesare Brandi's *Theory of Restoration*, restorable lacunae were identified through careful examination of the pictorial composition and previous documentation.

After cleaning, the lacunae in the preparatory layers which were thought possible to reintegrate because the reconstruction was not hypothetical, were filled to surface level using aerial mortar and then reintegrated using *tratteggio* (a hatching technique) (fig. 3.23) (Bentivoglio and Oteri 2005). Filling was performed selectively not to erase historical incisions or to exceed in reintegrating severely damaged areas, in particular in the lower part of the wall.

In case of lacunae that were impossible to integrate because the reintegration would have been hypothetical, stone and original interstitial mortar were cleaned. Lacunae in the original interstitial mortar and stone unevenness were fixed with a lime mortar made to be distinguishable at close range from the original mortar.

## 3.2. RISK ASSESSMENT

### 3.2.1. Natural threats

Based on the observations made throughout the ongoing joint DoA-WMF-ISCR conservation project a number of natural threats were identified:

- Floods - The monument and several other archaeological structures are in a wadi bed. The disastrous floods of 1994 resulted in a review of the flood prevention structures previously built at the site. In 1995 and 1996 these were improved and no other flooding episodes have occurred since. In some areas, however, the gabions at the base of the berms separating the active wadi bed from the archaeological area are eroded and may collapse following a flash flood episode;
- Birds – Birds still enter the building from the main entrance, now that all windows are sealed, and stay inside. Their droppings can damage the paintings' surface;





3.23. *Tratteggio* applied on new lime mortar filling small lacunae (visible in center of image)



3.24. Graffiti are one of the most serious problems affecting the integrity of the site

- Other pests – Sealing the roof holes and other openings has drastically reduced the number of insects and other small animals entering the building. Flies cause nuisance to visitors but they do not seem to affect the painted surface. Burrowing animals cause damage to unexcavated structures and future management of the area will have to take this into consideration;
- Dust – Again, sealing of the many openings has also reduced the amount of dust, which however still enters the building from the only wide entrance available, especially during windy days. Dusts deposits in fine layers on surfaces and obscures details. With time, it may create a harder layer, difficult to remove;
- Erosion – Sealing of spaces between the ashlar of the monument outside has reduced this risk, which however remains high in other monuments of the site (the *qasr*, the watchtower, the “service” building and the second *saqiya*), which remain unexcavated and unconsolidated;
- Salt efflorescences – This phenomenon is observed in some rooms (the alcoves for example) and may be due to the use of cement in old repairs;

- Raising moisture – This phenomenon was observed where water stagnates, for example on the outside of the western wall of the monument, but also in the western alcove.

### 3.2.2. Man-made threats

- Vandalism and graffiti – This is one of the most serious risks to the integrity of the site. Graffiti writing is still frequent on site and the presence of guards does not seem to be sufficient to curb it (fig. 3.24). Vandalism is also quite frequent in the form of illegal excavations, especially in remote parts of the site. This plan proposes a number of measures that could be taken to at least reduce its impact;
- Lack of maintenance – This is seen in the state of conservation of the visitor center, of the path, and other structures;
- Highway – Passing only 100 m east of the site, the heavy truck traffic of the highway provokes vibrations that may weaken the main monument’s structure and cause structural problems;
- Previous interventions – In past conservation efforts, Portland cement was used to repair wall cracks and lacunae. Although present conservation efforts are concentrating on its removal, salts may have migrated into the walls where it was applied. On the paintings, the applications of shellac and of successive repaintings have affected the pictorial layers. Efforts are concentrating on their removal, but this is a slow process that will hopefully be achieved in the course of the present conservation project;
- Dams and check dams – The water harvesting projects of the Ministry of Agriculture and of Water and Irrigation in the area are a threat to the integrity and authenticity of the landscape setting of the site because of the modifications they produce in the biodiversity of the area. They are also a threat to the site itself, because of the increased risk of flash-flooding in case of dam’s collapse or overflow;
- Illegal quarrying – As already mentioned, illegal quarrying is a forbidden yet practiced activity which destroys the natural landscape and produces seismic vibrations potentially hampering the structural conservation of the main building;

- Unplanned interventions – There are traces, also recent, of several failed “improvement” projects conducted by contractors to the MoTA without proper supervision. This has resulted in a failed attempt to plant the area of the site with trees about ten years ago, which however has left scars and foreign material (tufa pebbles) on the surface of the site, and in the construction of a visitor path which has partially damaged unexcavated parts of the archaeology of the site, namely the service building and the ancient quarry, both partly bulldozed, and the ruined *qasr*, which was used as a quarry to procure cut stones to use in the delimitation of the visitors path.





South wall of western aisle, after conservation

## CHAPTER 4 – THE MANAGEMENT CONTEXT

### 4.1. LEGAL STATUS AND PROTECTION

#### 4.1.1. National protection

Historically, the legal framework for antiquities in Jordan includes the following laws:

- First Antiquities Law under the British Mandate for both Palestine and Jordan, 1925;
- First Jordanian Antiquities Law of 1935, renewed in 1947;
- Antiquities Law No. 33 of 1953;
- Antiquities Law No. 26 of 1968;
- Antiquities Law No. 12 of 1976, incorporating stop to trading, exporting and importing of antiquities and amended in 1988 (amendment No. 14);
- Antiquities Law No. 21 of 1988, amended in 2002 (amendment No. 23), 2004 (amendment No. 23) and 2008 (amendment No. 55);
- Regulations for Archaeological Excavations and Surveys in Jordan of 1994, in accordance with provisions of the Antiquities Law No. 21 of 1988;
- Law No. 5 of 2005 on the Protection of Architectural and Urban Heritage, ruling the protection and management of cultural heritage dating after year AD 1750;
- Regulations for Archaeological Excavations and Surveys in Jordan of 2013, issued pursuant to the provisions of the Jordanian Antiquities Law No. 21 of 1988.

The **current legal framework** in Jordan applies the **Antiquities Law 21/1988 and following amendments** of 2004 and 2008. The structure of the Law can be summarized as follows:

- Definitions (articles 1-2);
- Competent authorities' roles and responsibilities (article 3);
- Property of antiquities (articles 4-8);
- Antique sites' protection, excavation and discoveries (articles 9-22);
- Movable antiquities' trading, import and export (articles 23-25);
- Sanctions and penalties (articles 26-30);
- National museum (articles 31-32);
- Other issues (articles 32-36).

With specific reference to the case of Qusayr 'Amra, the following articles appear of fundamental importance in ruling its ownership, management, investigation, development and other interventions at the site: i) article 2: definition and legal status; ii) article 3: competent authority; iii) articles 4-6: property of antiquities and sites; iv) articles 9 and 13-22: protection, excavation and discoveries.

A first aspect of utmost relevance concerns the **legal definition and status** of Qusayr 'Amra. Within the broad and general group of “antiquities<sup>7</sup>”, the Antiquities Law 21/1988 classifies the sub-group of

<sup>7</sup>According to the Antiquities Law “antiquities” are: “a) Any object, whether movable or immovable, which has been constructed, shaped, inscribed, erected, excavated, or otherwise produced or modified by humankind, earlier than the year AD 1750, including caves, sculpture, coins, pottery, manuscripts and all sorts of artefact that indicate the rise and development of sciences, arts, manufacturing, religions and traditions relating to previous cultures, or any part added thereto, reconstructed or restored at a later date; b) Any Object, movable or immovable, as defined in the previous subsection referring to a date subsequent to the year AD 1750, which the minister may declare to be antique by order of the Official Gazette; c) Human, plant and animal remains going back to a date earlier than AD 600” (Antiquities Law 21/1988, art. 3, par. 7).





immovable heritage as follows:

- “Antique sites” (Antiquities Law 21/1988, art. 3, par. 8), consisting in sites whose importance and value is officially recognized by the State and namely:
  - a. Any area in the Kingdom that was considered historic site under former laws;
  - b. Any other area that the Minister decides that it contains any antiquities or that is related to important historical events, provided that this decision shall be announced in the Official Gazette.
- “Immovable antiquities” (Antiquities Law 21/1988, art. 3, par. 9), consisting in the larger group of immovable heritage bearing some kind of significance and value, namely “fixed antiquities that are connected to the ground, whether built on it or existing underground, including antiquities underwater and those in territorial waters” (Antiquities Law 21/1988, art. 3, par. 8).
- “Antiquities protectorate” (Antiquities Law 21/1988, art. 3, par. 14), defined by the Law as “an area of land that contains archaeological remains or human or natural remains that have been designated and announced by a decision of the Cabinet. This decision is based on the recommendation of the Minister supported by a recommendation of the Director General. These include the terms and provisions for the preservation of things present therein” (Antiquities Law 21/1988, art. 3, par. 9).

Qusayr ‘Amra was declared a “National Property” and a “Protected Area” under the Antiquities Law of 1935 on 9 November 1939. The declaration was published in the Official Gazette of Jordan on 2 December of the same year (Official Gazette No. 656). The property includes the main monument building only, as expressed by the coordinates provided together with the declaration in the above-mentioned official publication. The site thus falls under the category of sites mentioned in article 3, paragraph 8 of the current Law, that is “any area in the Kingdom that was considered historic site under former laws” (Antiquities Law 21/1988, art. 3, par. 8). Therefore, its current legal status is that of “antique site”, with all special provisions this position entails and with particular reference to registration, ownership, rights of easement, protection and investigation.

The **competent authority** is the Department of Antiquities of Jordan (DoA), whose specific functions for heritage sites include:

- Their appraisal and evaluation;
- Their administration, protection, maintenance, repair and preservation, beautification of their surroundings and display of their features;
- Their research and investigation.

In the specific case of Qusayr ‘Amra, site management is partially shared with the Ministry of Tourism and Antiquities (MoTA) which is responsible for tourism development and the maintenance of the visitor centre. A more in-depth analysis of the management system at Qusayr ‘Amra, particularly of local authorities’ respective roles, responsibilities, current staffing and activities is provided in paragraph 4.2 below.

In general, according to Antiquities Law 21/1988 the ownership of immovable antiquities is uniquely vested in the State (Antiquities Law 21/1988, article. 5, paragraph a). With specific reference to antique sites, their identification, ownership and rights of easement are concretely formalized through legal procedures and acts. Particularly, antique sites should:

- Have names, limits and rights of easement recorded in the Immovable Antiquities Register (Antiquities Law 21/1988, art. 4, par. a);
- Be registered at the Department of Lands and Survey, together with their rights of easement (Antiquities Law 21/1988, art. 4, par. b);
- Be registered in the name of Treasury/Antiquities (Antiquities Law 21/1988, art. 5, par. f);
- Be published in the Official Gazette, with exact definition of their names and borders (Antiquities Law 21/1988, art. 6).



It is important to highlight that no land in such sites shall be authorized, leased or appropriated to any entity without prior approval of the Minister.

The identification and declaration of new antique sites is vested in the Minister of Tourism and Antiquities, who decides their names and borders upon recommendation of the Director General of Antiquities and in cooperation with the Department of Lands and Survey (Antiquities Law 21/1988, art. 6). Their name, limits and rights of easement are then recorded in the Register of Immovable Property and in the Registers and Maps of the Department of Lands and Survey. Just as for all other antique sites, their ownership is registered in the name of the Treasury/Antiquities and their acquired legal status and borders are published in the Official Gazette. According to the above normative framework, and Qusayr 'Amra being an antique site, the name, limits, ownership and rights of easement of this site should appear, among others, in the Register and Maps of the Department of Lands and Survey. Recent consultations with the latter held by the Site Management Plan Team (SMPT) in May-June 2012 and later in 2013 have displayed that none of the above elements currently appears in the Department's official maps, nor does its registration under Treasury/Antiquities appear in any consulted document.

The **protection** of antiquities in Jordan is enacted through three main channels:

1. Prohibition of destruction, damage or alteration of the antiquity itself, as per article 9 of Antiquities Law 21/1988<sup>8</sup>;
2. Regulation of development works around the antiquity, so as to avoid major impact on the antiquity itself and on its contextual perception, as ruled in article 13 of Antiquities Law 21/1988<sup>9</sup>. Particularly, this regulation provides for an ideal buffer zone that impede the construction of buildings and dangerous industries respectively within 5/25 m and 1 km from any antiquity. A special provision to extend the construction buffer beyond 5-25 m applies for antique sites, in order to guarantee their protection, maintenance, expansion and appropriate visual perception. Such decision depends on the Minister, upon recommendation of the Director General of Antiquities.
3. Regulation of antiquities' investigation, particularly regarding institutions/authorities entitled to survey and excavate antiquities and the ownership of artefacts found thereon, as stated in articles 14-22 of Antiquities Law 21/1988. The DoA appears as the only authority entitled to carry out antiquities' investigation in Jordan or to license other institutions to undertake such work. All antiquities found during any work carried out by any entity or person in the Kingdom belongs to the State (Antiquities Law 21/1988, art. 21, par. a).

In the specific case of Qusayr 'Amra all regulations mentioned above appear to be globally respected and implemented. Some concerns may arise only with regard to the construction of a water reservoir less than 1 km west to the main building, with a capacity of 40,000 m<sup>3</sup> of water that may threaten the site should the pond fill up and overflow its banks. Indeed, in this case it may be argued that the reservoir is as dangerous to the site as a heavy industry, lime furnace or stone quarry, and that its presence should have been subject to the very same by-laws ruling their construction.

<sup>8</sup>“It is prohibited to destroy, ruin, disfigure or cause damage to antiquities including the change of their features, the separation of any part thereof, transformation thereof, affixing of notices thereon or displaying of signs on them” (Antiquities Law 21/1988, art. 9).

<sup>9</sup>According to the Antiquities Law: “a) It is prohibited to license the establishment of any structure including buildings and walls unless it is about 5-25 m from any antiquities, against a fair compensation. b) It is permissible, by a decision of the minister on the recommendation for the Director, to increase the distance mentioned in Paragraph a) of this Article if necessity requires in any of the following cases: 1-The protection or maintenance of the antique site. 2-The expansion of the antique site. 3-To secure that the antique site is not obscured by any construction. c) It is prohibited to set up any heavy or dangerous industries, lime furnaces or stone quarries at a distance less than one km from the location of the antique sites. In all cases, prior approval of the Department shall be given before inviting offers or awarding tenders for engineering services, design and sketched and preparing the documents of public and private project tenders” (Antiquities Law 21/1988, art. 13).



4.1. The *qasr* is continuously looted and used as a source for building material



4.2. The mosque identified by Genequand in 2001 cannot be seen any longer

Since the archaeological remains are widely distributed over an area of approximately 1.5 km<sup>2</sup> around the main building<sup>10</sup>, an extension of the protected area is currently being processed to encompass all archaeological features there. In this regard, some concerns arise on the effective implementation of Antiquities Law 21/1988, particularly:

1. The destruction and illegal excavation of antiquities recorded through previous explorations and currently used as illegal sources for stone and construction materials or searched and dug in hunt for treasures and gold. The most striking, concrete examples of this problem are:
  - a. The *qasr*, located about 600 m northwest of the main building and repeatedly used as an open air quarry for stone and building material (fig. 4.1). Indeed, when it was first recorded on a map by the Spanish archaeological and conservation mission in the 1970s this structure appeared clearly as a squared building of modest dimensions built around a central courtyard, with two major watchtowers on its northern side and a projecting main entrance on the southern side.
  - b. The mosque, located few metres southeast of the *qasr*. Its existence was noticed and recorded by Genequand (2002) during his survey in 2001. At that time, the eastern and southern walls of this mosque, together with its mihrab, were still visible and suggested it could be interpreted as an open-air mosque (musalla) of the 2<sup>nd</sup> decade of the 8<sup>th</sup> century (Genequand 2002). Today, pillages and illegal excavations, probably in search of gold or other treasures, have made it impossible to distinguish this structure from other scattered remains, thus depriving archaeologists of an important piece of information to better interpret this controversial area (fig. 4.2);
  - c. The *saqiya* located 350 m southeast to the main building. This *saqiya* was excavated during the Spanish archaeological and conservation mission in the 1970s, and full documentation is available witnessing its excellent state of conservation in those times. Nowadays, the remains are indistinguishably piled in scattered rubble possibly produced by illegal excavations and extraction of construction materials, and it is very difficult to distinguish the original structure (fig. 1.6).
2. The implementation of legal and illegal development works in the archaeological area of 1.5 km<sup>2</sup> surrounding the main monument building, and particularly:
  - a. The construction of a water reservoir within the concerned area, carried out in partial violation of the construction limitations referred to in article 13 of Antiquities Law 21/1988. Indeed, not only the water reservoir represents a flood threat to the main building, but its construction also occurred in an area of high archaeological potential whose excavation should have not been allowed without DoA's prior approval and archaeological assistance during works' execution (fig. 3.2);
  - b. The construction of a solar water pumping station at 400 m from the site, susceptible to contravene

<sup>10</sup> The area extent is roughly calculated based on the archaeological distribution maps drawn following various archaeological surveys at the site.

- article 9 of Antiquities Law 21/1988 as it may disfigure the steppe setting that justifies initial planning and setting of the whole complex;
- c. Illegal quarrying activities in the area surrounding the site, which contravene to article 9 of Antiquities Law 21/1988 since they pose a direct threat to the stability and conservation of the main building and because they disfigure the original environmental setting that justifies the site's initial design and construction. Depending on their location, illegal quarrying activities are also in contravention of article 14, paragraph c of the same Law (fig. 3.9);
  - d. The road having been built in 1985, that is well before Antiquities Law 21/1988 was approved, its construction did not violate any of the current rules and regulations. Still, the road cuts the site in two and separates its western structures (main building and *saqiya*, *qasr*, watchtower etc.) from its eastern expansion and possible boundaries (second *saqiya* and u-shaped wall). Any future infrastructural development in the area will thus have to take this into consideration when planning possible widening of driving lanes and similar additions.

#### 4.1.2. International designation

Together with Petra, Qusayr 'Amra is one of the first two Jordanian sites having been inscribed in the World Heritage List. The 1985 Nomination Dossier and the ICOMOS's evaluation that endorsed Jordan's nomination of Qusayr 'Amra as a World Heritage Site (WHS) highlighted the importance of Qusayr 'Amra for its remarkable architectural structure and bath complex. Most importantly, however, ICOMOS' evaluation stressed the uniqueness of the figurative painting decoration on the walls and vaults of the reception hall and of the baths, with historical, mythological and imaginary scenes and themes. As already mentioned in chapter 1, and as it will be seen more in detail in chapter 5 below, the combination of these factors provided ground for Qusayr 'Amra's inscription in the World Heritage List on the basis of criteria i, iii and iv<sup>11</sup>.

In 2005 the revised Operational Guidelines to the World Heritage Convention introduced the **Statement of Outstanding Universal Value** (SOUV), which represents the basis for the future protection and management of a WHS. The Statement is drawn upon information contained in the State Party's World Heritage Nomination and includes a summary of the World Heritage Committee's (WHC) determination that the property has an Outstanding Universal Value (OUV). At its 34th Session in 2010 the WHC retrospectively adopted the SOUV for Qusayr 'Amra, which includes:

- a. A brief synthesis of the site's historical context and background;
- b. The justification for site's inscription;
- c. The Statements of Authenticity and of Integrity for the site, respectively measuring the authenticity and wholeness of the cultural heritage and its attributes;
- d. The protection and management requirements, including adequate long-term legislative, regulatory, institutional protection and management and delineated boundaries to ensure the site's safeguarding.

As we shall see in detail in chapter 5, Qusayr 'Amra's OUV is embedded in the uniqueness of its cycle of paintings and in the state of conservation of the architectural ensemble. In this regard, and since 2010, the value of the site is also expressed by the archaeological complexity of the area, with a variety of other archaeological structures around the main building, and by the natural context of the site, an "oasis" in the steppe of eastern Jordan. The

<sup>11</sup> The selection criteria are reported on the Operational Guidelines to the World Heritage Convention and include: criterion i, to represent a masterpiece of human creative genius; criterion iii, to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared; criterion iv, to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates a significant stage in human history (UNESCO 2011).



integrity of the site is currently well preserved since the most significant elements of the property remain intact (UNESCO 2010), despite a variety of natural and man-made threats. The SOUV also highlights the authenticity of Qusayr ‘Amra, which is conveyed by the main monument building, wall paintings and remnant mosaic floors, as well as by the archaeological and natural contexts (UNESCO 2010).

These elements, officially presented in the SOUV, provide national and international stakeholders and parties with the most authoritative reference and framework for Qusayr ‘Amra’s protection and management. Site management is thus to be performed to ensure sustainable conservation of the site’s values, authenticity and integrity as expressed in the above document. Based on the SOUV, the **protection and management** of Qusayr ‘Amra are ensured by:

- a. Its legal status as a "National Property" and a "Protected area" under the Antiquities Law of 1935 and under Antiquities Law 12/1976, as incorporated and enforced through current Antiquities Law 21/1988;
- b. Site management, reportedly implemented by the MoTA through the DoA’s Regional Office in Zarqa;
- c. Site boundaries and fencing, and the attempt, by the DoA, to establish an expanded protection zone around the property for up to approximately 2,000 dunum (200 ha).

The recent evolution of the Operational Guidelines to the World Heritage Convention requested the Jordanian authorities to adapt to new conservation and management requirements. This particularly includes: i) the development of a Site Management Plan (SMP), and ii) the delineation of boundaries that ensure the full expression of the site’s Outstanding Universal Values (OUV), integrity and authenticity of Qusayr ‘Amra and that guarantee its effective protection. The present document responds to the former requisite and was developed within the broader joint conservation project between the DoA, WMF and the ISCR for the improved conservation and management of Qusayr ‘Amra.

With reference to the delineation of clear boundaries for the site, in 2009 the WHC officially requested the Hashemite Kingdom of Jordan to provide clear boundaries’ definition for the nominated property. After an archaeological survey of the area and consequent report, in 2009 the DoA regional Directorate in Zarqa sent a letter to the Department of Lands and Survey requesting the allocation of land for the protection of Qusayr ‘Amra and the other Desert Castles. After reviewing the extent of the area, in January 2009 both institutions countersigned the proposal to allocate the DoA 6,289 *dunum* (628.9 ha) of land at Qusayr ‘Amra, incorporating the main monument building and adjacent archaeological structures. The request was reiterated through a letter sent by the DoA to the Department of Lands and Survey on 6 April 2011, confirming the requested area extent of 6,289 *dunum*. The land requested by DoA is *khazina*, meaning that it belongs to the Treasury. In 2010 the SOUV adopted by the WHC reported that the “Department of Antiquities is currently in discussion with the authorized departments regarding land cadastre surveying for the establishment of an expanded protection zone around the property for up to approximately 2,000 *dunum* (200 ha)” (UNESCO 2010, p. 12)

In March 2011, the DoA sent a letter to the UNESCO Office in Amman including a map (without the indication of clear coordinates) showing two border outlines: one indicating the current property of the DoA, and the second displaying the new boundaries as per request made to the Department of Lands and Survey. In reality, however, at the current understanding of facts neither of these boundaries exist, although a fence surrounds the main monumental area. Indeed, the fence was set up by a DoA-IFAPO project in 1995 without reference to any official boundary, while the new boundaries are those requested to the Department of Lands and Survey, but not yet assigned by it. In May 2012, as part of the preparation of Qusayr ‘Amra’s Site Management Plan, it was decided that the definition of new site’s boundaries and buffer zones would be of priority importance. Investigations were thus conducted regarding progresses made in land allocation. It was discovered that the

request made by DoA in 2009 and reiterated in 2011 was never followed up by the Department of Lands and Survey, since two other conflicting requests exist for parts of the requested land. Indeed, two Departments of the Ministry of Agriculture, the Forestry and the Rangeland Departments, have advanced similar requests to the Department of Lands and Survey. The definition of the WHS's boundaries should be independent from land ownership issues. These boundaries are being defined by the DoA in coordination with the MoTA so that the core archaeological and environmental zone can be adequately protected.

To date, no major points have been raised by the WHC with regard to the conservation and management of Qusayr 'Amra and its compliance with the Operational Guidelines. In 1997 and again in 1998 the WHC positively responded to the design and planning of a visitor centre at the site, which was built in the late 1990s (1998-1999). In 2003 the WHC sent a mission of Italian experts to Qusayr 'Amra to evaluate a project concerning the building of a wastewater treatment plant in the al-Azraq area. Apart from the other negative effects, the experts pointed out the unsustainable location of the water plant and recommended a new appropriate evaluation of the project to avoid risks of compromising the specific cultural landscape of the Azraq region and its assets.

In 2006 a new group of international experts visited the site on behalf of the WHC in combination with the Reactive Monitoring Mission to Umm ar-Rasas. The visit was organized by the DoA to update available information concerning the management and state of conservation of the site and its mural paintings. In their final report, the experts highlighted the lack of major threats at the site and appreciated the positive impact achieved through the presence of the visitor centre on the site's presentation and its ability to improve tourist flow through the site. The report stressed the increasing damage to the paintings, deriving from natural and man-made threats, including structural deterioration of the building and decay of chemical agents from conservation campaigns in the 1970s. It also stressed the lack of adequate human resources for ordinary maintenance works and to protect the site from vandalism.

## 4.2. COMPETENT AUTHORITIES

The administration and management of Qusayr 'Amra is divided by fields of competence between two main authorities:

- The Department of Antiquities<sup>12</sup> (DoA), in charge of all activities related to the conservation, administration, protection, maintenance, repair and preservation, beautification and display of the site and of its surroundings as per Antiquities Law 21/1988 (art. 3), and
- The Ministry of Tourism and Antiquities (MoTA), in charge of all that concerns tourism development issues and particularly the identification, implementation, management and maintenance of tourism-related infrastructures and activities, as per Tourism Law 20/1988.

### 4.2.1. The Department of Antiquities

The DoA is responsible for all activities related to the conservation, "administration, protection, maintenance, repair and preservation, beautification [...] and display [...]" of the site and of its surroundings (Antiquities Law 21/1988, art. 3). This includes first of all the main monument building with its paintings and mosaics and with its adjacent structures, the *saqiya* and the spur wall on its west side. This also includes the other archaeological remains as detailed in chapter 2 above, particularly: the *qasr* located 600 meters northwest to the main building, an open-air mosque south of it, some caves, a watchtower, a second *saqiya* southeast to the

<sup>12</sup> The Department of Antiquities is considered one of the independent departments in Jordan. It has its own budget that is managed by a Director General, who is undersecretary and directly linked to the Minister of Tourism and Antiquities.





main building and a variety of other remains and walls scattered in the area and still open for investigation.

Within the field of competences of the DoA, the administration and management of Qusayr 'Amra may be schematized as follows:

- Ordinary activities, including monitoring and maintenance of the site as well as the ticket service, administered by the DoA's regional Directorate in Zarqa<sup>13</sup>;
- Extraordinary activities, including extra-budgetary conservation and rehabilitation projects, administered by DoA's Central Office in Amman through its Directorates as per projects' field of action and requirements.

Despite ad-hoc official coordination actions, no structured mechanism appears to exist between ordinary and extraordinary activities and respective implementation teams, and their integration is mostly left to individual interactions and working relationships. At present time, team working in the DoA is excellent, but the establishment of a structured line of communication may help avoiding a potential lack of coordination in the future.

Ordinary activities include regular monitoring of the site and of its surroundings as well as periodic maintenance works. It also includes the ticket service, which is currently merged with that of other two Desert Castles, Qasr al-Kharraneh and Qasr al-Azraq. Ordinary activities are administered by DoA's regional Directorate in Zarqa through:

- Two archaeologists, of which: one in charge of monitoring and coordinating conservation and maintenance works at all Desert Castles; a second one, introduced in June 2012, in charge of coordinating conservation and maintenance works at Qusayr 'Amra and at Qasr al-Kharrane. The apparent lack of clear tasks/responsibilities distinction between these two staffs suggests the possible overlapping and scarce coordination of interventions at Qusayr 'Amra and Qasr al-Kharrane;
- Seven field workers based in Qusayr 'Amra, of which: three ticket vendors<sup>14</sup>, two ticket observers and two guards with shifts of one week each.

With specific reference to field workers at Qusayr 'Amra, recent consultations with local stakeholders and visitors allowed to identify the following points of attention:

- The ticket vendor is frequently absent;
- No ticket is sold in Qusayr 'Amra, nor ticket control is ensured at the entrance to verify whether tickets were already purchased at the two co-ticketed sites of Kharraneh and Azraq;
- Not always do guards provide thorough guarding service, as it is proven by an increasing amount of graffiti and other vandalism episodes and as it is also witnessed by the experience of visitors who, when arriving at the site early in the morning, are given the key of the main building so as to open it themselves;
- Guards workload appears excessive, since it entails two monthly shifts of one week each, 24 hours per day (day and night);
- Guards perceive that their role/function does not appear clearly to visitors, which has an impact on their authority to limit acts of vandalism. They hint that the adoption of symbols of authority, such as a badge or a uniform, may better convey this message;
- Guards stay at the visitor center at night, but do not undertake patrolling of the site and there are no alarms to wake them up in case of forced entrance.

<sup>13</sup> The DoA's regional Directorate in Zarqa is responsible for an area of approximately 100 x 150 km, including all the Desert Castles.

<sup>14</sup> The ticket to Qusayr 'Amra also includes the visit to the two other desert castles of Qasr al-Kharraneh and Qasr al-Azraq. Recent changes in legislation assign 20% of ticket revenues to maintenance and conservation of archaeological sites, but the funds are pooled together and DoA will decide the amount to be assigned to each site.

According to some staff from MoTA and DoA, an element of these professional deficiencies stems from the current system of field workers' recruitment. In some cases it is suggested that increased salary and training could enhance the motivation and professional engagement of staff.

Except from the periodic monitoring of the site and its surroundings, which are carried out more or less on a regular basis, ordinary activities do not seem to follow a pre-ordered strategic plan but rather appear to occur as a response to emerging needs. Particularly, maintenance works intervene when necessary and are planned and executed upon request of DoA's field officer by DoA's workers or by external companies. Because of the above-mentioned lack of an overall plan on the site's maintenance, much of its undertaking and technical assessments are left to the initiative and capacities of field officers. This type of approach leaves an enormous responsibility to single individuals, to their respective competences and also to their understanding and knowledge of the site and of its strengths and weaknesses, thus hampering an integrated, long-term and strategic approach to conservation.

Extraordinary activities are administered and coordinated by the DoA's Central Office in Amman through its Directorates as per projects' field of action and requirements. They include extra-budgetary conservation and rehabilitation projects and are administered in collaboration with other national and international institutions. As it appears from the chronohistory of interventions reported in the table below (fig. 4.3), extraordinary projects are normally carried out by international institutions and they are often relying on external funds and needs assessments. Despite the fundamental interest and value of most of these projects, their implementation appears based on external opportunities and needs, rather than according to a national, holistic site development strategy based on its priorities. In this regard, a comprehensive analysis of the sequence of interventions allows drawing the following observations:

- a. Interventions at the site can be grouped by clusters of intensive collaboration between the Jordanian authorities and the following international institutions: i) Spanish *Museo Arqueológico Nacional* in the 1970s; ii) *Institut français d'archéologie du Proche-Orient* (IFAPO) in the 1990s; iii) WMF and ISCR from 2008 onwards. On top of these, we should add a series of conservation assessments carried out in the 1990s and then in 2000, generally on very similar conservation aspects and issues. Far from bearing any negative value, this type of approach embeds the risk of intervening on the site without clear vision of the priorities but rather on the basis of emerging opportunities, despite their final relevance for the global site conservation;
- b. Interventions at the site mostly focus on the baths complex and on the nearby hydraulic and protective systems (first *sagīya* and spur wall), which indeed are the key components of this WHS. Nevertheless, as it is also mentioned in the Nomination File and ICOMOS evaluation, the significance and value of Qusayr 'Amra also include the surrounding landscape, with its archaeological as well as environmental context. A clear, holistic strategy prioritizing among key needs for intervention may allow distributing local and foreign projects across all key site features, rather than repeatedly focusing on the same structures and issues. Interventions on the baths complex include many conservation assessments, carried out at different stages but at short intervals by different companies/institutions/organizations. Particularly, such number of assessments concentrates from years 2000s onwards. Their reports all lead to analogous conclusions, thus suggesting that this redundancy did not bring any added value in terms of conservation strategies.
- c. In the area of approximately 1.5 km<sup>2</sup> surrounding the core monumental complex and containing a variety of other archaeological remains, extraordinary interventions mainly consist in archaeological surveys carried out in the 1970s, in the 1990s and again in 2001. No other types of actions seem having been undertaken instead, such as conservation assessments, documentation of the remains or concrete conservation works. A clear vision and strategic planning for the site carried out in the buting local and foreign projects



INTERVENTIONS	AREAS OF INTERVENTION		
	Baths complex	first <i>saqiya</i> & spur wall	Other remains
2010-ongoing, DoA-WMF-ISCR	A+D+C	A+D+C	A+S+D
2009, Spanish Mission	D		
2009, Hashemiyeh University	A		
2008, WMF	A		
2006, UNESCO	A		
2005, WMF	A		
2003, UNESCO	A		
2002 - 2004, CNR-FUA-ISAD	A		
2001, FSLA-Zürich		S	S
2000, UNESCO	P	P	P
1999, UNESCO			P
1998 - 2000, IFAPO-UNESCO			P
1997, Austrian Embassy			P
1996, University of Granada	C		
1995 - 1996, IFAPO	C+P	C+S+E	C+S+E+P
1993, IFAPO	A		
1992, IFAPO	A	A	
1991, IFAPO	C+E		
1989 - 1995, IFAPO	D		
1981 - 1983, DoA	C?		
1971 - 1974, 1979, MAN	C+S+E	C+S+E	C+S+E
1960s, DoA	C		

4.3. Extraordinary activities projects at Qusayr ‘Amra since earliest interventions (A=Assessment; C=Conservation; D=Documentation; E=Excavation; P=Presentation; S=Survey)

All in all these observations suggest a piecemeal approach to the management and development of Qusayr ‘Amra, very much relying on external funds and initiative and little responding to a national medium and long-term vision. The lack of staff specifically allocated by DoA to the design and fundraising of project proposals further adds up to this global lack of autonomous site management and independent leadership, leaving national authorities totally reliant on external initiative and funds.

#### 4.2.2. The Ministry of Tourism and Antiquities

The Ministry of Tourism and Antiquities is responsible for all that concerns tourism development issues and especially the identification, implementation, management and maintenance of tourism-related infrastructures and activities. This includes, among others, the maintenance and regular cleaning of the visitor centre, the development and maintenance of paths and shelters supporting access to the site and the site’s marketing and promotion to the public. In order to guarantee that interventions are compatible with the protection and conservation of antiquities, in theory all MoTA’s interventions need the DoA’s approval prior to their implementation. In practice, miscommunication and other matters sometimes hamper this formal procedure, resulting in damage to the site and its most appropriate presentation to the public.

The workforce allocated within MoTA to superintend, design and implement tourism-related activities at Qusayr ‘Amra includes:

- One staff in MoTA’s Tourism Site Management Directorate, Section of Desert Castles, in charge of tourism-related infrastructures maintenance and development, including the visitor centre.
- Four field workers based in Qusayr ‘Amra, of which two visitor centre’s supervisors and two cleaners.

across all key sitens/organizasis of prioritized needs rather than on projects’ and institutions’ interests;

d. Presentation activities mainly concentrate on the baths complex and on the nearby hydraulic/protective structures, as well as on the development of a visitor centre and of infrastructures directly supporting the access to the site in area. Differently from conservation and investigation, site presentation projects have developed in a much more coherent manner, without major redundancies as for types of intervention. A major lack of interventions appears in the presentation and enhancement of other archaeological remains and of the environmental context. This lack hampers a thorough presentation of the site’s significance and values and confines interpretation activities to the main building only, thus conveying visitors only part of the site’s values and worldwide significance.

With specific reference to field workers, dissatisfaction is being expressed by MoTA's staff over the quality and effectiveness of their work. Similarly to what explained above for DoA's field workers, these professional shortcomings may be linked to recruitment modalities and to the professional terms and conditions of these positions. In some cases it has been pointed out that increased salary and training could enhance the motivation and professional engagement of this staff.

Tourism-related activities at Qusayr 'Amra may be divided between ordinary and extraordinary. Ordinary activities include the regular maintenance of tourism-related infrastructures, namely the visitor centre. Extraordinary activities are carried out on an ad-hoc basis and address the development of specific services and infrastructures. Among these, the most recent ones include the feasibility study for a night lighting system in the core monumental area and the creation of paths and shelters between the visitor centre and the main building.

As it appears from the chronohistory of interventions, presentation and tourism-related activities seem to be distributed between MoTA and DoA without major distinction as for respective fields of action and competence. Accordingly, the visitor centre was developed by the international community in collaboration with the DoA, but it is currently managed and maintained by the MoTA. Site access infrastructures have been planned and designed by the MoTA and only later have they been subject to DoA's technical approval. This lack of clear division of tasks and responsibilities between the two authorities hampers a coherent and harmonious development of the site, multiplying interventions and funds in a fragmented approach to site management and presentation. A clear example of this haphazard approach was, in early 2012, the installation of a layer of black gravel on the path leading to the site, executed by a contractor upon MoTA's request. The gravel was not only aesthetically unpleasant, but also uncomfortable to walk on, to the point that the path could no longer be used by tourists. Following the DoA's protests the gravel was finally removed, but all this resulted in expenditures that could have been allocated to other, more urgent projects.

#### 4.3. KEY STAKEHOLDERS

Qusayr 'Amra's stakeholders were identified in consultation with the MoTA and DoA, and based on the analysis of all national and international public and private institutions who can have an impact on the site or be impacted by it. These include:

- National institutional actors, including all Jordanian Authorities variously involved in the management and development of the site and its surrounding areas. These include:
  - Civil Defence (Ministry of Interior);
  - Department of Antiquities (Ministry of Tourism and Antiquities);
  - Department of Lands and Survey (Ministry of Finance);
  - Forestry Department (Ministry of Agriculture);
  - Hashemite University, Queen Rania Institute for Heritage and Tourism;
  - Jordan Museum;
  - Jordan Tourism Board (Ministry of Tourism and Antiquities);
  - Ministry of Environment;
  - Ministry of Interior/Domestic Affairs;
  - Ministry of Public Works and Housing;
  - Ministry of Tourism and Antiquities;
  - Ministry of Water and Irrigation;
  - Municipality of Azraq;
  - Municipality of Muwaqqar;
  - National Electric Power Company;
  - National Commission for UNESCO;
  - Natural Resources Authority (Ministry of Energy and Natural Resources);



## SECTION II – SITE ASSESSMENT AND ANALYSIS

- Office of Bedouin Affairs;
  - Rangeland Department (Ministry of Agriculture);
  - Royal Court;
  - Tourism Police;
  - University of Jordan and other universities.
- Private sector and civil society in Jordan, namely the non/semi-governmental organizations that are variously involved in the conservation and management of the site and its surroundings. Qusayr ‘Amra being located in the desertic steppe, it was difficult to identify a concrete interlocutor for the civil society since nobody lives near the site and in its immediate surroundings. It was thus decided to consult the Bedouin tribe that is held responsible for the area. Globally, the stakeholders under this category include:
    - Handicrafts associations and producers in Azraq;
    - Jordan Inbound Tour Operators Association (JITOA);
    - Jordan National Gallery of Fine Arts;
    - Jordan Tour Guides Association (JTGA);
    - Royal Society for the Conservation of Nature (RSCN);
    - Royal Botanic Garden (RBG);
    - Students and archaeologists;
    - Teachers and schoolchildren;
    - Tribe of Beni Sakher.
  - International actors, namely the international organizations and institutions variously involved in the conservation, management and presentation of the site at various stages, or conducting projects at other Umayyad sites:
    - American Center of Oriental Research (ACOR);
    - Berlin Technical University and Pergamon Museum;
    - Centre for British Research in the Levant (CBRL);
    - *Centre National de la Recherche Scientifique* (CNRS) and *Institut français du Proche-Orient* (Ifpo);
    - *Deutsches Archäologisches Institut*;
    - *Istituto Superiore per la Conservazione e il Restauro* (ISCR);
    - Spanish Archaeological Mission;
    - UNESCO Office in Jordan;
    - World Monuments Fund (WMF).

Stakeholder consultations were held between Spring 2012 and Autumn 2013 on a bilateral and plenary basis, depending on the level of impact of the above-mentioned stakeholders on the conservation and management of Qusayr ‘Amra (fig. 4.4). Both bilateral and plenary meetings pursued the following objectives:

- To share information and raise awareness on Qusayr ‘Amra as a cultural and World Heritage Site and the national and international provisions for the site’s conservation and management;
- To discuss about and identify perceived site values and assets;
- To gather information on current and prospective development projects on site as well as in its surrounding;
- To foster debate and consensus on most appropriate means to ensure compliance with national and international conservation and management provisions within the local and regional development context;
- To identify the most appropriate strategies to combine



the local development needs with the preservation of the site, its authenticity, integrity and values.

Bilateral meetings were principally held with primary stakeholders, particularly national governmental bodies directly engaged in current or prospective development projects at the site or in its immediate surroundings, such as the Rangeland Department (Ministry of Agriculture), the Directorate of Mines and Quarries (Natural Resources Authority) and the Department of Lands and Survey (Ministry of Finance).



4.4. Stakeholders meeting

Three stakeholder workshops were organized in April and June 2012 and in March 2013 as a means to engage secondary stakeholders<sup>15</sup> into fruitful exchanges and debate on Qusayr 'Amra, its values, conservation and the development of its surrounding territory. They involved representatives of national institutions, private companies and civil society, as well as members of the international community from the academic and intergovernmental sectors.

One important component of these consultations was the bilateral and plenary discussion with representatives of the concerned local community and particularly the Beni Sakher, one of the key Bedouin tribes in Jordan since as far as the 18<sup>th</sup> century whose land also includes Qusayr 'Amra. Very extended by territory and number of members, the Beni Sakher are further divided into clans among which is the clan of Khreisheh, based around Qusayr 'Amra. Because of their intimate connection to the land, a key community activity to date has been the encounter of local representatives of the tribe, in order to explore with them their memory and traditions of the site, analyze tribe identity components in association with it, assess their current interest in site conservation, and raise awareness on the value of Qusayr 'Amra and the importance of its legacy. These activities are constantly ongoing and intend to prepare the ground for long-term community-based conservation of the site, which is the only effective key to its sustainability.

#### 4.4. FINANCIAL RESOURCES

Coherently with the management structure delineated in the paragraphs above, the national financial resources allocated to Qusayr 'Amra pertain<sup>16</sup>:

- To the DoA, for all ordinary and extraordinary activities under its responsibility;
- To the MoTA, for all projects and tourism-related actions and interventions.

The DoA does not allocate a specific budget for annual expenses at the site. Rather, operating costs and other necessary expenses are paid under the global DoA's budget on an *ad hoc* basis. The annual budget for ordinary activities is estimated around 3,000 JD, divided between 600 JD per year (50 JD per month) for cleaning expenses and 2,400 JD per year (200 JD per month) for electricity costs. On top of this, other occasional expenditures may occur in connection with specific projects or activities, as it is the case in 2012 of approximately 20,000 JD allocated by MoTA for the development of paths to access the main monument building and for general maintenance of the bathrooms at the visitor centre.

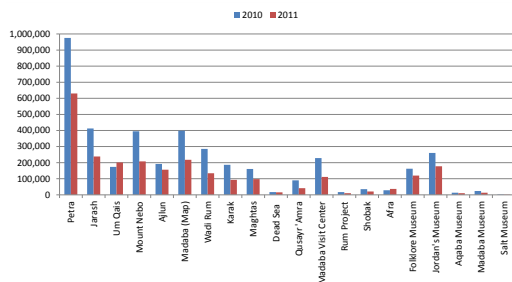
A consistent share of financial resources at Qusayr 'Amra comes from extra-budgetary international funds, as it is the case of the current conservation and management project jointly implemented by the DoA, the

<sup>15</sup> Secondary stakeholders are the 'intermediaries', that is, persons or organizations who are indirectly affected by an organization's actions.

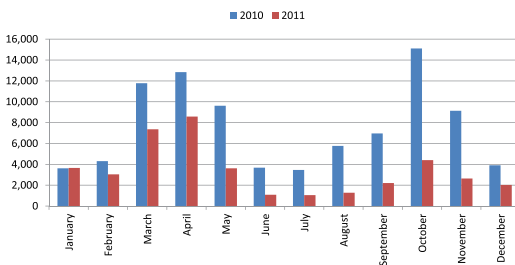
<sup>16</sup> This calculation does not include personnel costs, which are sustained by DoA's Central Office.



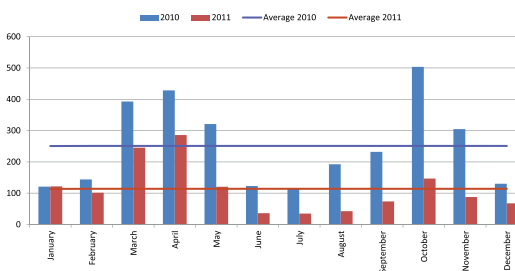
## SECTION II – SITE ASSESSMENT AND ANALYSIS



4.5. Yearly tourist flows in Jordan and in Qusayr 'Amra for years 2010 and 2011 (Jordan Tourism Board 2012).



4.6. Monthly tourist flows in Qusayr 'Amra for 2011 (Jordan Tourism Board 2012).



4.7. Daily average of tourists in 2010 and 2011, per month and with indication of yearly means.



4.8. Tourism survey conducted by students of Hashemite University's Queen Rania Institute for Heritage and Tourism

WMF and the ISCR through Italian and WMF's funds and DoA's contributions in kind.

### 4.5. VISITORS' NUMBERS, PROFILE AND IMPACT

#### 4.5.1. Tourists' flows

Tourists' flows at Qusayr 'Amra are monitored by the MoTA and indicate that between 2010 and 2011 an average of 65,000 people per year visited the site, with approximately 90,000 visitors in 2010 and 45,000 in 2011 (fig. 4.5). The difference between 2010 and 2011 accounts for a reduction of about 54% of tourists in 2011, and may question the reliability of these data. However, it needs to be kept in mind that the political turmoil of 2011 in the Middle East may have well impacted the overall amount of tourists visiting the Region, including Jordan. It is thus inferred that a smooth global return to political stability will resume tourism back to its initial figures, in Jordan as well as at Qusayr 'Amra.

As it appears in fig. 4.6, despite major or minor overall tourists' flow, the high season at Qusayr 'Amra falls between March and May and again between August and November, while its lowest attendance is during summer, particularly June and July. Visits still occur throughout the rest of the year, although the flows appear clearly reduced. The data collected by MoTA also inform on the nationality of tourists, which for their largest part (95%) are foreigners.

The above figures suggest an average of 5,465 visitors per month, with approximately 182 visitors per day (fig. 4.7). However, calculations on the effective yearly figures show that before 2011 the average number of visitors at Qusayr 'Amra could reach up to 250 people per day, with a minimum of 115 in the least attended month and a maximum of 503 in the highest season. For 2011, these figures appear more acceptable, with an average of 112 visitors throughout the year, between a minimum of 35 and a maximum of 286 people per day. Far from being mere statistics, these calculations are an important datum to retain in view of establishing the most appropriate strategies to manage tourists flow and ensure site's conservation. Indeed, figures such as the ones of 2011 do not appear as potentially harming the site. On the contrary, the over 500 visitors per day registered in 2010 may represent a threat for the conservation of the main

monument building and especially for the paintings contained therein, which may be affected by the environmental variations produced by intense tourists' flows as well as improper visitors' behaviour.

The data provided by MoTA do not allow inferring more on the type of tourism at Qusayr 'Amra. To augment these data, in 2012 and 2013 the Site Management Plan Team (SMPT) undertook a series of visitor surveys to draw a global understanding of current typical visitors' and visits' profiles and trends at the site. The survey was implemented thanks to the fruitful support of the DoA and the close collaboration of the Hashemite University's Queen Rania Institute for Heritage and Tourism (fig. 4.8). It took place for one week in June 2012, during the low season, and then it was repeated again in November 2012 and in May 2013, during the high season. The surveys allowed to collect two types of data: i) overall visitors' numbers at Qusayr 'Amra and their flow trends within the main building; ii) interviews with a selected number of visitors on their visit to the site. The former datum intended to provide an overall understanding of visitors' flows at the site, including their daily and hourly visit trends and the average duration of their stay within the main building. The latter aimed to provide more detailed information on the average characteristics of tourists and visits at the site. Interviews were conducted on the basis of a questionnaire purposely devised to this end. The survey allowed interviewing approximately 800 people, and monitoring the flow of over a thousand of them.

#### 4.5.2. Tourist and visit profiles

The average tourist at Qusayr 'Amra is characterized as follows:

- Mainly European: out of a 96% of foreign visitors, 79% come from European countries and a minor 16% from the rest of the world, of which 5% from the US only;
- Of any age, but preferably between 31 and 65 years old (63% of respondents);
- One-shot visitor: 91% of respondents declared coming to the site only once. This datum, however, is little indicative as most of visitors are foreigners and mostly likely visit Jordan only once in their lifetime;
- With limited previous knowledge of the site (56% of respondents declared knowing nothing or little about the site before their visit), but educated and capable to understand and retain key information through the visit. Indeed, at the end of their visit an average 72% of respondents had fully or partially understood the key elements of the site (e.g. chronology, function and historical context).

Visits to Qusayr 'Amra normally fall within a broader travel to Jordan bearing the following key features:

- Duration between one and two weeks (87% of respondents), mostly one week (34% of respondents);
- Both group and individual travel, with no major distinction between the two but with clear preference for guided tours with about 60% of respondents in both surveys;
- Content-wise, general travel displaying key aspects of Jordan together with Qusayr 'Amra. The most common trend associates it with the visit to the two Desert Castles of Qasr al-Azraq and Qasr al-Kharraneh (59% of interviewees), with clear predominance of this association in October (63% of interviewees against 39% in June). A good 25% of interviewees also includes in the same day a visit to Amman and its heritage sites (19% of respondents) or a trip to the Dead Sea (6% of respondents). The remaining 16% of respondents further adds to the above itineraries a visit to other sites such as Jerash, Petra, Madaba and Mount Nebo.

The average visit to Qusayr 'Amra presents the following key features:

- Visits appear evenly distributed throughout the week and mainly concentrate between 10 am and 4 pm, with some lower numbers between 12 and 2 pm during the high season in October. The survey undertaken in June further suggests that at that moment of the year visits may concentrate in the first



half of the week (Sunday to Tuesday) between 10 am and 1 pm, with 60% of the overall amount of weekly visitors concentrating in this very slot of time;

- The duration of stay spans between a minimum of five minutes to a maximum of one hour with general trend between 10 and 20 minutes (65% of respondents).

In general, interviewees appear satisfied with the visit to Qusayr ‘Amra, since most of them (96%) would recommend its visit to their friends. The visit normally includes all key elements of the main monument building and its adjacent structures, and the area is globally perceived as peaceful and comfortable, despite the fact that most respondents share their visit inside the building with other tourists.

Most interviewees (85%) like the facilities available on the site, against a minor 5% who do not. The visitor centre encounters large appreciation, with an average 48% of positive evaluations on its explanations, graphics and content. The access paths are also well appreciated, with 66% of interviewees judging them good and 17% fair. The evaluation of restrooms is less favourable, with only 31% of positive remarks and several requests for improvement. Poor evaluation also for the ticket services, not visited by 55% of interviewees in June 2012 and apparently not even functioning despite the existence at the site of staff purposely recruited to this end. Finally, respondents suggest that the following additional facilities and services be provided at the site:

- Information sources (e.g. brochure, site map, guide books, small video, photographs, boards etc.) available at the site (36% of respondents), sitting areas, possibly in the shadow (20%),
- A bookshop (17%),
- A cafeteria at the site (19%), and
- More/different exhibits (2%).

Other suggestions also include the presence of a lighting system inside the castle and the availability of local guides at the site.

#### **4.5.3. Tourism impact and management**

Based on the information made available by key stakeholders and partners, particularly the MoTA, it appears that no global strategy or plan for tourism development and visitors’ management exists for Qusayr ‘Amra. Except from piecemeal interventions on specific aspects of the site (e.g. visiting paths), no comprehensive vision for the site’s enhancement is currently under discussion, nor are related implementation strategies and development plans. Visitors’ flow do not appear as a major concern to competent authorities, and this aspect is not being assessed neither. Still, the site is being marketed around the world by the Jordan Tourism Board (JTB) as a component of the itinerary to Jordan’s Desert Castles. The lack of vision and strategy versus a constant marketing of the site may, on the long term, impact on the conservation of the site, since an increased visitors’ flow may not be balanced by adequate flow management strategies and mechanisms. As it has already emerged through the visitor survey, one potential risk may already be emerging during the low season in summer, with the concentration of 80% of tourists in the early part of the week, between 10 am and 1 pm. If tourists flows remain moderate, as it is the case in 2011, this datum does not appear excessively alarming for the conservation of the site. On the contrary, should tourists’ flows resume as in 2010, the site would have to face flows of up to 3,500 people per week, of which 2,800 concentrated in the first three days, with peaks of up to 935 persons per day during the high season. If this scenario proves true, the lack of appropriate tourism management measures and strategies will lead to the rapid decay of the site, and to a major cultural loss for Jordan and the whole humankind.

## CHAPTER 5 – SITE SIGNIFICANCE AND VALUES

The values<sup>17</sup> of Qusayr ‘Amra have been identified through in-depth technical analyses as well as through broad consultations with stakeholders. Accordingly, a core set of values shapes the **significance** of the site through the following components:

- **Historical value:** stemming from the contextualization of the site in its historical time, at the very core of Arab expansion and during the apogee of the Umayyad caliphate;
- **Archaeological value:** deriving from the richness in archaeological structures and sites in the area surrounding Qusayr ‘Amra, spanning over tens of thousands of years and providing information on different modalities of human settlement in the *badiya* through time;
- **Artistic/aesthetic value:** linked to the presence of one of the most extensive cycle of paintings of early Islamic art, with the unique testimony they provide in understanding the origins of this art as well as its cultural, iconographic and technical references;
- **Architectural value:** deriving from the building style, techniques and materials as well as from the advanced water channelling system allowing the existence of a bath complex and, seemingly, of gardens and/or agricultural cultivations in the steppe;
- **Natural value:** linked to the existence of Wadi al-Butum and of its peculiar ecosystem, which presumably was one of the key reasons why Qusayr ‘Amra was built there;
- **Scientific value:** deriving from the enormous potential of archaeological discoveries in the area, which may sensibly impact the global understanding of Desert Castles’ structure and function as well as of Umayyad territorial strategies and control;
- **Social and symbolic values:** stemming from the role held by Qusayr ‘Amra for local communities and in the symbolic frames of reference of the Bedouin tribes who have occupied the land for centuries.

These core values are further reinforced and enhanced by the international recognition of the site’s **Outstanding Universal Value (OUV)**, its **authenticity** and **integrity**, which have gained Qusayr ‘Amra the nomination as a WHS in 1985.

A further group of values, or also opportunities, includes all such elements deriving from the many potential or effective uses of the site and producing secondary repercussions on stakeholders and the local community. This group seemingly includes:

- **Tourism and economic values and assets:** deriving from people’s interest in the site, expressed through their visit to it and triggering the development of associated income-generating activities such as tickets sale, bookshop, cafeteria, tourists guide, sale of souvenirs etc.
- **Educational assets:** linked to the informative potential that the site retains over the general public of any age and to the possibility of transferring these information through a variety of educational and communication policies and strategies.

Values being the drivers of conservation, their detailed presentation is reported in the paragraphs below,

---

<sup>17</sup> The values of a site are the characteristics that motivate its labelling as “heritage” and that justify and lead its conservation. These include, among others, the values connoting the cultural significance of a site, such as historical, artistic and archaeological values. As it is widely accepted, the notion of site values extends to other aspects that are rather associated to the relation and impact that the site engages with and produces on the territory. These notably include the economic, tourism-related and educational values, and allow a certain range of site-derived socio-economic and development opportunities for the variety of stakeholders.





with the view to allow a thorough understanding of the site's significance and opportunities and to lay the bases for the development of clear conservation and management guidelines.

## 5.1. CULTURAL SIGNIFICANCE

### 5.1.1. Historical value

Built by prince al-Walīd bin Yazīd presumably during Hisham's caliphate (724-743) Qusayr 'Amra is, together with Qasr Hisham and its mosaics, "the best preserved of the decorated Umayyad palaces and castles in Jordan and Syria" (UNESCO 2010, p. 12) As an expression of the Umayyad culture and power during the last decades of their reign, the historical value of Qusayr 'Amra thus entails a variety of aspects, which in some cases configure themselves as independent values.

A first key element is the role seemingly played by Qusayr 'Amra in the geopolitical control of the Jordanian *badiya*, as part of a broader network of Desert Castles. Recent territorial studies demonstrate that these structures were strategically built at line-of-sight distance one from the other and their positioning was normally located at perennial water sources along key routes of transhumance. Besides allowing hunting and cultivation (Lammens 1908; Herzfeld 1921; Sauvaget 1967; Grabar 1963; Grabar 1973), their strategic positioning clearly allowed extended control over primary supply and exchange chains in the region (Almagro 1995; King 1985; Alhasanat et al. 2010), as it is well displayed at Qusayr 'Amra, bent over the course of the Wadi al-Butum and at a very short distance from Azraq and Qasr al-Kharraneh. As a leisure palace, imbued with arts and pleasure, Qusayr 'Amra also provided Umayyads with an excellent venue for strategic, diplomatic exchanges with the chiefs of local Arab tribes (mainly from the Quda'ah confederacy) who were their key supporters and allied in this part of their territory (Vibert-Guigue and Bisheh 2007). Another aspect of the historical value of Qusayr 'Amra is the information it provides on the culture of the time, as a by-product of a unique blend between Late Antique regional taste, iconography and imagery with Arab ideology, costumes and social dimensions. As one of the few extant cycles of paintings of early Islamic times, the imagery, iconography and techniques conserved in Qusayr 'Amra shed new light on the history of Islamic art in its seamless transition between pre-Islamic visual references and sources and its later, mature expressions. The testimony of secular creativity and art, far from religious-bound aniconism, Qusayr 'Amra shows the coexistence of elements such as Late Antique Syrian figural representations, Sasanian elements and traditions, Greek inscriptions and mythological imagery and the Christian art of the eastern Roman Empire, and proves their fundamental contribution to the very growth and development of later Islamic art and taste.

Again in connection with its paintings, the historical value of Qusayr 'Amra is also linked to the information they provide on the interests and pleasures of the ruling class during the Umayyad caliphate, including dance, music, hunting, bathing and women (fig. 5.1). These elements appear particularly important in connection with the controversial figure of al-Walid bin Yazid or Walid II, who appears as having built this palace while he was heir to Hisham (724-743). A vilified member of the Umayyad dynasty, Walid II is considered as a caricature of impiety and licentiousness because of his alleged indifference to religion, cruelty and renegefulness and due to his passion for love, women and wine – all seemingly underpinned in the imagery selection at Qusayr 'Amra (Judd 2008). Recent studies, however, suggest that the leadership role of Walid II may have been more complex and influential, placed at the crossroad between the culmination of the Umayyad conception of religious authority and the beginning of later Abbasid political theory (Judd 2008). In this sense, the historical value of Qusayr 'Amra also entails the contribution that the site and its figurative cycles can give to a clearer interpretation of this debated character of the Umayyad caliphate, especially since recent conservation interventions on the paintings are starting to reveal details and characteristics that are bound to change our knowledge and understanding of Umayyad art and of its symbolic meaning.

### 5.1.2. Archaeological value

The archaeological potential of Qusayr ‘Amra is high. In fact, no extensive archaeological investigation has been conducted on site with the exception of works conducted in 1974 by the Spanish mission which allowed to draw the first archaeological map of the complex, and in 1995-1996 in occasion of the rebuilding of the spur wall to protect the site from floods. Both these works revealed the archaeological potential of the site, with a number of discoveries of movable and immovable elements. The ongoing conservation project, jointly implemented by the Department of Antiquities (DoA), the World Monuments Fund (WMF) and the *Istituto Superiore per la Conservazione e il Restauro* (ISCR), has confirmed this potential with the discovery of a number of structures, possibly related to the construction of the baths, a quarry system, and numerous prehistoric sites in the immediate surroundings of the bath complex (fig. 5.2).

The structures located near the visitor center, in particular, promise to reveal precious information on the dating of the first construction of the baths, as they are certainly connected with it. Qusayr ‘Amra can thus be better understood in the context of its archaeological complex, in line with other Umayyad estates identified in the region (Qasr el-Mushash, Qasr el-Muwaqqar, Qasr el-Hallabat, Qasr el-Tuba among others), and not as an isolated example of a building made for the pleasure of an individual.

### 5.1.3. Artistic and aesthetic values

The artistic value of Qusayr ‘Amra rests in its cycle of paintings, which to date appear as the most extensive testimony of figurative art in Umayyad times (ICOMOS 1985; UNESCO 2010). They are thus of fundamental importance to understand the birth and evolution of Islamic art in terms of themes, iconography and techniques (Vibert-Guigue and Bisheh 2007). Partially frescoes and partially dry paintings, they display a rich and articulated iconographic repertoire where a variety of themes with no apparent unity blend together images, texts and narratives borrowed from Greek mythology (e.g. a bathing beauty modelled on Aphrodite or the zodiac displayed on the dome of the *caldarium*), Sasanian traditions (e.g. the procession of kings) (fig. 5.3), Byzantine style portraits and hunting scenes, depictions of animals and birds and other, heterogeneous figures of early mythological



5.1. Hunting scene, west wall. The top part of the scene was found under a layer of yellow tempera.



5.2. The newly identified quarries



5.3. The Six Kings panel



origins. What's more, the representation of the night sky with zodiac symbols on the domed ceiling of the caldarium is thought to be the oldest extant spherical representation of the northern sky.

From an aesthetic point of view, the delicacy of the characters' traits and clothes and the astonishing brightness of colours, which are even better emerging thanks to the ongoing DoA-WMF-ISCR joint conservation project, undoubtedly impress visitors and generate a sense of beauty and peacefulness inside the main monument building.

#### 5.1.4. Architectural value

The small building of Qusayr 'Amra has a close parallel at Hammam as-Sarra, at a distance of approximately 30 km, but it is in a better state of preservation. Its proportions and plans are derived from classical bath complexes (such as the baths at Avdat/Oboda, in the Negev desert, dated to the 4th-5th century AD). The architectural value of the building derives from its good state of preservation, which allows to study its construction techniques and elements (such as the slightly pointed arches) which are otherwise difficult to hypothesize in ruined buildings (fig. 5.4).

The extraordinary cycle of paintings illustrating the phases of construction of the building, coupled with the discovery of associated structures dedicated to the quarrying and dressing of stones, and preparation of decorative elements (such as glass tesserae for the decorations of the *caldarium* and alcove rooms) are another element making this site unique for the understanding of architectural developments from Late Antique to Islamic times.

#### 5.1.5. Natural value

Qusayr 'Amra was established here as the hub of a ruling class of desert origins, the Umayyads, in order to control this part of their territory, to interact with chiefs of local tribes, and to exercise leisure activities among which the hunt. One clear element in the choice of the location is the presence of water, a



5.4. Slightly pointed arches in main hall

fundamental need for human survival which here is guaranteed by Wadi al-Butum, a water stream running northwest-southeast over an area of approximately 320 km<sup>2</sup> ranging between 700 m ASL at the hilltops and 500 m ASL at the wadi bed near outlet point.



5.5. Wadi al-Butum

The accrued soil moisture surrounding the water stream allows the existence of Mediterranean vegetation, and particularly of *butum* trees (*Pistacia atlantica*), which flourish all along the course of the river and date back to centuries ago (Addison et al. 2009) (fig. 5.5). It also hosts a variety of living species, particularly birds (27 species of which 7 residential) and small mammals (e.g. red fox and capehare). Wadi al-Butum appears as a green hub in the middle of the typical Jordanian *badiya*, a steppe of clayey soils covered by black basaltic rubble (*harra*, especially in north-eastern Jordan) or by a thin layer of chert (*hammada*). The latter, *hammada*, pertains the specific area of Qusayr 'Amra (Addison et al. 2009).

The natural value of Qusayr ‘Amra is thus associated to the unique presence of this unique green ecosystem, expressed by its groves of *butum* trees and other typical Mediterranean vegetation, within the broader *badiya* region, with its remarkable layer of dark chert contrasting the blue of the sky. It also rests in the persistence of local fauna, although larger animals are no longer visible at the site as it might have been the case in Umayyad times.

#### 5.1.6. Scientific value

The scientific value of the site resides in the various aspects that renewed research at the site is activating: archaeology, history of architecture, history of art, epigraphy, sophisticated documentation techniques (such as thermography, laser scanning, application of GIS techniques, etc.), conservation theory and practice. All these topics carry with them a component of scientific investigation that will provide years of study to researchers and students worldwide.

#### 5.1.7. Social and symbolic values

The local community values this site, as evidenced by discussions with its members during a variety of meetings. As documented in above chapter 4, Qusayr ‘Amra rests in the land of the Khreisheh, a clan within the tribe of Beni Sakher, who has occupied it since as far as the 18<sup>th</sup> century. The site is reportedly located on an ancient border between Bedouin tribes and it used to be one of the main stations for the tribe of Beni Sakher. The *butum* trees are also considered an important element of the landscape, as they provide shade, but also attract small birds that are sometimes hunted by the local people. The social value of the site is bound to increase once its decorative elements will start to be used also for economic activities, such as production of souvenirs and artistic items.

#### 5.1.8. Outstanding Universal Value, authenticity and integrity

The OUV<sup>18</sup> of Qusayr ‘Amra was recognized in 1985 upon the site’s inscription in the World Heritage List and was further reinstated through the adoption of the retrospective Statement of Outstanding Universal Value (SOUV) in 2010<sup>19</sup>. As mentioned in above chapters 1 and 4, the OUV of Qusayr ‘Amra is recognized against criteria i, iii and iv, particularly because:

- Its paintings “constitute a unique achievement in the Umayyad period” (UNESCO 2010, p. 11) and represent “a masterpiece of human creative genius” as per criterion i) of UNESCO’s Operational Guidelines to the World Heritage Convention (2011);
- With its exceptional paintings and iconography, it bears “a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared” as per criterion iii) of the Operational Guidelines (2011);

<sup>18</sup> The Outstanding Universal Value of a property is recognized by the UNESCO World Heritage Committee upon inscription of a site in the World Heritage List. It is defined as the “cultural and/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” (Operational Guidelines 2011, p. 49). The Outstanding Universal Value of a property is assessed against 10 between cultural and natural criteria and is recognized only if the property meets the conditions of authenticity and integrity. The loss of Outstanding Universal Value, authenticity and/or integrity justify a property’s eventual removal from the World Heritage List, since it fails to comply with the very key reasons of worldwide recognition.

<sup>19</sup> The Statement of Outstanding Universal Value was introduced by the revised Operational Guidelines of 2005. Together with the Statement of Authenticity and the Statement of Integrity, both introduced at the same time, it now represents a core component of World Heritage Nominations. Its retrospective adoption has been fostered for all sites inscribed in the World Heritage List before 2005: Qusayr ‘Amra is one of them, and its Statement of Outstanding Value was adopted by the World Heritage Committee in 2010.





- Being the best conserved of the Umayyad palaces and castles in Jordan and Syria, it provides “an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history” as per criterion iv) of the Operational Guidelines (2011).

Accordingly, the OUV of Qusayr ‘Amra appears as firstly linked to its exceptional paintings, which have no parallel during the Umayyad period and which also provide an unprecedented corpus of images to investigate and understand early Islamic art, its iconography, style and cultural/artistic references. Qusayr ‘Amra’s OUV is also associated to the exceptional state of conservation of its architectural ensemble. In this regard, the site evaluation presented by ICOMOS in 1985 highlights how this castle, among all others in Jordan and Syria<sup>20</sup>, is the only one where the architectural and the artistic/decorative features of the complex are conserved together *in situ*, and together communicate the delicate complexity of this type of ensemble. In this regard, the SOUV adopted by UNESCO in 2010 (UNESCO 2010) introduces a broader understanding of the notion of “architectural ensemble” in Qusayr ‘Amra, no longer limited to the coexistence of architectural and decorative elements within the main monument building but also incorporating the other remains recovered in the area. In this sense, and since 2010 only, the fort/garrison buildings, the wells, the hydraulic systems, the drainage pipe and cesspool, the water catchment works for agricultural purposes are all key components of Qusayr ‘Amra as an architectural ensemble, and thus deserve equal conservation and management attention and treatment. What’s more, and again since 2010 only, this architectural ensemble is linked to its environmental context, an “oasis” in the steppe of eastern Jordan. This opens up the way to the natural value of the site, which will be further detailed in the following paragraphs.

The OUV of a site goes along with the site’s authenticity and integrity, which are qualifying conditions in World Heritage Sites’ nominations. The authenticity and integrity of a site are expressed, respectively, by the Statement of Authenticity and the Statement of Integrity. For Qusayr ‘Amra these Statements were adopted in 2010, together with the above-mentioned SOUV and are now a key reference for site conservation and management.

As expressed by the concerned SOUV, the **authenticity**<sup>21</sup> of Qusayr ‘Amra “is conveyed by the bath building and reception hall and their wall paintings and remnant mosaic floors. It is also conveyed by the context of the building which includes the adjacent well, tank and water-lifting system, the fort/garrison to the north, the remnant agricultural water collection structures and the desert environment with its seasonal watercourses” (UNESCO 2010, p. 12). Accordingly, the authenticity of Qusayr ‘Amra is linked to the existence and state of conservation of the above remains, particularly the building with its decorative features but also the other structures recovered in the surrounding area.

Some remarks need being made in this regard, particularly in the light of the new discoveries at the site. Recent conservation campaigns on the mural paintings at Qusayr ‘Amra have revealed the severe interventions operated by the Spanish team in the 1970s, which included the repainting of most images as well as the covering of some of them with layers of yellow/ochre tempera. Conservation interventions on the south-west aisle of the main hall are unveiling conspicuous elements previously unknown to researchers

---

<sup>20</sup> The ICOMOS evaluation refers to Qasr el-Mschatta, whose gypsum work is at the Berlin Museum, Qasr Hischam/Khirbet al-Mafjar, whose mosaics are at the Palestinian Archaeological Museum in Jerusalem, and to Khayr al-Sharqi and Qasr al-Khayr al-Gharbi, with few decorative elements.

<sup>21</sup> The authenticity of a site is defined as “the measure of the degree to which the values of a heritage property may be understood to be truthfully, genuinely and credibly expressed by the attributes carrying the values” (Stovel 2004, p. 3). It is normally assessed against some key site attributes, such as: i) form and design, ii) use and function, iii) materials and substance, iv) location and setting etc. (UNESCO 2011, p. 82).



and to the public, such as the delicacy of traits and postures (fig. 5.6), new physical features (e.g. beards, moustaches etc.), complete gender swaps (e.g. characters previously thought to be women turning out to be men) and inscriptions. In some cases, they are revealing new images hidden under the layer of tempera, which will require a thorough revision of the paintings' interpretations proposed to date (fig. 5.7).

These discoveries suggest that the paintings we currently admire at Qusayr 'Amra are a challenging blend of authentic background layer topped by modern modifications, which in some cases have sensibly altered the original iconography. The restitution of the original Umayyad paintings through active removal of all subsequent layers thus appears as a mostly necessary and compelling intervention if the authenticity of attributes such as form and design is to be preserved.

The 2010 Statement of **Integrity**<sup>22</sup> of Qusayr 'Amra particularly focuses on the physical conditions of the main monument building and on the deterioration processes harming its conservation on the long term. Accordingly, the baths and reception hall with their frescos remain intact, although threatened by a variety of factors such as erosion, flooding, moisture penetration, dirt, graffiti and birds/insects' deposits (UNESCO 2010). The construction of a highway 150 m east to the site also alters the setting, producing noise and pollution in once a peaceful place. No reference is made in this Statement as to the other integrity parameters such as the inclusion, in the site, of all elements that convey its OUV, or the presence of adverse development works. In this regard, some remarks need thus being made for a thorough understanding of Qusayr 'Amra's state of integrity.

A first remark concerns the integrity of Qusayr 'Amra as an "outstanding example of an Umayyad desert establishment" and "the best preserved of the decorated Umayyad palaces and castles in Jordan and Syria" (UNESCO 2010, p. 12). From a typological point of view, the so-called "Desert Castles" normally appear as citadels with defensive towers and with rooms arranged around a wide courtyard surrounded, in the smaller palaces, by roofed colonnades. This is the case of complexes such as Qasr al-Mshatta and Qasr at-Tuba in Jordan, of Khirbat al-Mafjar in Palestine, Khirbat Minya in Israel and of Qasr al-Hair al-Gharbi and Qasr al-Hair al-Sharqi in Syria. This is not the case, at the moment, for Qusayr 'Amra, where the main monument building is but part of the overall original complex and does not include any of a palace's living quarters. If, as hinted above, we assume that the value of Qusayr 'Amra as an architectural ensemble is not only linked to the combined presence of architectural and decorative elements in the main monument building, but that this value also refers to the existence of other, interconnected structures pertaining to the same architectural complex, then we must recognize that the integrity of Qusayr 'Amra will need enhancement for all what concerns the investigation, conservation and presentation of the other



5.6. Representation of a scribe, south wall of western aisle



5.7. Previously unknown painting found under a layer of yellow tempera

<sup>22</sup> Integrity is the "measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes" (UNESCO 2011, p. 88). It is assessed against: i) presence of all elements necessary to express a site's OUV, ii) adequacy of the site's size to ensure the complete representation of the features and processes which convey the property's significance, and iii) presence of adverse development effects. For cultural properties, the integrity is also related to the physical state of conservation of the property and the control over deterioration processes (UNESCO 2011, pp. 88-89)



site components (e.g. the *qasr*, the watchtower etc.). Indeed, unless the overall articulation of the site is investigated and conserved, it will be difficult on the long run to support the idea that Qusayr 'Amra is the best preserved Desert Castle in Jordan and Syria, since what we see today is but a minimal part of the whole ancient complex.

Another remark on the integrity of the site concerns the implementation of development works and their potential adverse impact on it. Since at least early in the 1980s a sequence of development projects<sup>23</sup> have modified the archaeological pattern at Qusayr 'Amra. Although sometimes planned in response to natural threats such as erosion and flooding, works like the recent excavation of a check-dam in the core of the archaeological area may have led to the loss of potentially buried structures, thus seriously hampering the physical integrity of the site. The random execution of development works without previous impact assessment can also impact the integrity of the site's environmental setting. Interventions such as the creation of dykes in Wadi al-Butum and in Wadi el-Harth or the attempted reforestation of the area indeed modify the landscape at Qusayr 'Amra, thus turning it into something different from its original setting, that of a seasonal stream in a steppe ecosystem. Coherently with these observations, the appropriate management of development interventions at the site is a vital factor to the preservation of Qusayr 'Amra's integrity. The provision of adequate core and buffer boundaries, the set up and enforcement of appropriate modalities to manage development works in the area, and finally the mandatory execution of archaeological/environmental impact assessments and of emergency archaeology are all key possible measures to mitigate the alteration of the area's integrity.

## 5.2. OTHER SITE VALUES AND ASSETS

### 5.2.1. Tourism and economic development

In 2010 the site enjoyed approximately 90,000 visits a year (Jordan Tourism Board 2012). Since then, visitors have dropped to approximately 41,000 given the regional situation, but this number is bound to increase once the political situation in the region will improve. These numbers can already provide economic opportunities which remain untapped given the lack of clear policies concerning the development of desert/steppe tourism in the region. Both tourism and economic opportunities thus remain largely unexploited, while the region remains one of the poorest in the country.

### 5.2.2. Educational assets

Because of its cultural significance and the variety of values associated therewith, Qusayr 'Amra undoubtedly retains strong educational opportunities and value. Throughout the school year the site hosts the visit of primary and secondary classes from the neighbouring villages of Azraq and Muwaqqar (fig. 5.8). Seldom is it also the target of University groups, as it is unfortunately testified by their engravings on the mural paintings inside the main monument building. Informal observations carried out during the conservation campaigns and through the visitor surveys suggest that the information provided to the students by their accompanying teachers and through didactic materials available on site are scanty. As a result, there is the

---

<sup>23</sup>As better detailed in previous chapters, these development works include the construction of the road that from Amman leads to Azraq, built in 1985 over an artificial embankment that fundamentally alters the geomorphologic profile of the area. They also include the water management interventions implemented after the site flooding of 1994, such as the construction of a dyke in the bed of Wadi al-Butum, with stone gabions and earth to divert floods. They finally include the attempt of reforestation in the area surrounding Qusayr 'Amra (1995-1996), the excavation of a water reservoir few hundreds meters west of the main monument building and the construction of several dams and check-dams in Wadi al-Butum and in the neighbouring Wadi al-Harth.

widespread conviction that these young beneficiaries of Qusayr ‘Amra depart from the site with little more knowledge on its values and, what’s worse, with no understanding of appropriate behaviours to respect and protect their cultural heritage. Since 2006 the Azraq Community Archaeological Project (ACAP), a joint endeavour of Jordanian and foreign archaeologists, has variously engaged Azraq students and elders on heritage awareness in the badiya region. The activities included:

- For youth: archaeological workshops and laboratories, with excavation activities and Global Positioning System (GPS) training;
- For elders: guided visits to heritage sites, including Qusayr ‘Amra.

This is but one of the experiences, which if further developed, could allow capitalizing on the tremendous cultural significance of the site as an educational resource for new generations’ growth and development and towards a society that is better aware of its heritage and of the necessity of its conservation.



5.8. Visit of a primary school to the site





Vault of eastern aisle, craftsmen at work



## CHAPTER 6 – SUMMARY OF CONDITIONS, RISKS AND KEY ISSUES

As it emerges from the analysis presented so far, the conservation, management and presentation of Qusayr ‘Amra presents issues of various relevance, whose long-term persistence may have an impact on the preservation of the site. The analysis of these emerging issues and their root causes allows lumping them in the following few thematic groups (fig. 6.1):

1. Legal and institutional framework;
2. Conservation and documentation;
3. Maintenance and monitoring;
4. Visitation and interpretation;
5. Research and excavations;
6. Facilities, services and infrastructures;
7. Public awareness, education and community participation;
8. Investments, marketing and funding.

Each aspect will be presented below with clarification of key evidences and root problems. These elements will provide the baseline reference for the identification and development of site management aims, policies, strategies and actions.



Fig. 6.1. Excessive, uncontrolled number of tourist may lead to damage

### 6.1. LEGAL AND INSTITUTIONAL FRAMEWORK

This group of issues concerns:

- Existing legal provisions for site protection and management and their implementation;
- Site management responsibilities and tasks, and their distribution among concerned staff and authorities.

The normative framework provided by Antiquities Law 21/1988 is weakly implemented in Qusayr ‘Amra, as it appears evident from the uncontrolled execution of development works at and around the site (e.g. water reservoir, check-dams etc.). These works are carried out despite normative provisions on the preservation of heritage and its contextual landscape and may threaten, on the longer run, the preservation of the Outstanding Universal Value (OUV) of the site. They are particularly possible because of the lack of clear site boundaries and because the Department of Antiquities (DoA) is not recognized any right over the land in Qusayr ‘Amra. These two issues, boundaries and land property, are thus a first priority at Qusayr ‘Amra to ensure the enforcement of existing protection laws. What’s more, official site boundaries are a key requirement for all World Heritage Sites (WHS), which in 2010 the Jordanian authorities engaged to submit to UNESCO at the earliest convenience.

The management of Qusayr ‘Amra is endowed to a variety of departments and directorates within the DoA and the Ministry of Tourism and Antiquities (MoTA), depending on the type of ordinary/extraordinary activity. No formal coordination exists among said offices, neither within the DoA nor with the MoTA, which may result in piecemeal, uncoordinated work in the future. Particularly, the coordination between the DoA and the MoTA on actions concerning Qusayr ‘Amra is an important point of attention. In fact, there





are grey areas of overlapping/disjunctive competences between these two bodies, and no guideline defines the bodies' respective areas of intervention, nor is there a formal coordination mechanism between them to ensure constant exchange of information and agreed, strategic and values-based action on the site. An official coordination mechanism among all parties concerned with the conservation and management of Qusayr 'Amra is highly recommended to ensure that site actions and projects pursue a common, prioritized strategy based on the preservation and enhancement of the site values and international assets.

A final important management issue within the DoA concerns the way the site is supervised and monitored on a daily basis. As we could see in chapter 4 above, the site is managed on a daily basis by the regional Directorate in Zarqa through a site manager, which is based in Azraq and is in charge for all the Desert Castles in the eastern *badiya*. Site management is thus implemented on a remote basis, with periodic visits to the site. Maintenance works and site presentation activities are planned on an occasional basis, as a response to emerging needs and with no systematic monitoring and development planning. Site-based staff in charge for the security and tourist services (e.g. guards) is not regularly supervised, which sometimes has a negative impact on the quality of tourism services. Additionally, the lack of training for concerned security staff limits their capacity to be constantly at pace with the evolving conditions and peculiarities of the site, and impacts their efficiency on tourism and security-related activities. Remote management and an excessive workload for the site manager represent a challenge for the effective conservation and presentation of a site like Qusayr 'Amra, a World Heritage Site yearly attracting tourists from all over the world.

### 6.2. CONSERVATION AND DOCUMENTATION

This group of issues concerns:

- The object of conservation;
- The vision and strategy to conserve the site;
- The responsibilities and modalities for site conservation;
- The documentation of interventions and its easy accessibility.

Qusayr 'Amra embeds a complex mix of cultural and natural values, which need being equally preserved if the site is to remain authentic and integer. To date, however, conservation has privileged the cultural significance of the site, and particularly its artistic and architectural values, with repeated interventions on the baths complex and the paintings. Other archaeological features, such as the *qasr*, the second *saqiya*, the watchtower and the open-air mosque, have been made the object of archaeological investigations but have not been addressed by proper conservation works. This is producing the progressive deterioration of these less astounding, yet key archaeological remains. No conservation framework is in place either to preserve the natural values of the site, an essential component of the site. The root problem underlying these evidences seems to be the current lack of a holistic, strategic vision for conservation of the site, aimed at the integrated preservation of all its values and assets.

The protection of archaeological remains from the impact of development works is another important point of attention in Qusayr 'Amra. As we have seen earlier, a variety of development works have occurred there so far, such as the excavation of a water reservoir few hundred metres west of the main monument building, the construction of a water pumping station few hundred metres northeast of it, the construction of large dams at little distance from the site, and again the construction of a road few tens of metres east of the main building. These works dramatically affect the authenticity of the environmental setting in Qusayr 'Amra. These works also represent a concrete risk for the integrity of the archaeological deposits of the site and thus

need being stopped immediately. Key stakeholders on site (e.g. Ministry of Agriculture, Ministry of Water and Irrigation etc.) hardly consult the DoA on planned development works. Rescue/emergency archaeology needs also reinforcement to monitor development works, in order to ensure that any excavation at Qusayr ‘Amra is done under the attentive monitoring and documentation of experienced archaeologists.

The conservation of Qusayr ‘Amra is also hampered by natural decay and the action of agents such as wind, sandstorms, flood and humidity and animals’ deposits. Thorough quantitative and qualitative monitoring and analysis of these agents’ impact on the site may indeed play a key role in determining ad-hoc strategies of intervention. This is particularly true for environmental fluctuations linked to visitors’ flow inside the main building. In this case, the quantitative analysis of temperature and humidity patterns and their variation upon major/minor number of visitors may allow the set up of results-based policies for visitors’ flow management.

A remark is finally needed on conservation works. As it appears from the analysis of previous interventions, not always have conservation techniques aimed at long-term sustainability and, what’s even more important, at ensuring their minimal impact on the objects of conservation. In this regard, it is recommendable that clear methodological guidelines are designed and implemented, requiring the reversibility and long-term sustainability of interventions as well as their minimal impact on the authenticity of the site.

Scarce and approximate documentation of conservation and archaeological campaigns also represents a substantial constraint to the design and implementation of new interventions, as well as to the reinterpretation of excavation data –a common practice worldwide, which has often allowed interesting discoveries. This documentation is also difficult to access, since it is scattered between the DoA and other national/international institutions who have undertaken conservation and excavation works at the site. Documentation guidelines and the easy access to reports, for instance through the set up of a site documentation centre, appear as a fundamental need for the transparent and sustainable conservation of Qusayr ‘Amra.

### 6.3. MAINTENANCE AND MONITORING

This group of issues concerns:

- The object of site monitoring and maintenance;
- The strategy and modalities for monitoring and maintenance;
- The staff in charge for monitoring and maintenance and their responsibilities.

In this context, site monitoring and maintenance include:

- Monitoring and consequent maintenance of site features, to prevent them from damage and counteract natural/man-made actions of deterioration;
- The monitoring of people on site, in order to avoid that wrong behaviours seriously affect the conservation of the site.

The former is currently implemented by the site manager. It mainly targets the main monument building and it is carried out on an occasional basis. Maintenance interventions normally represent a response to existing deterioration, and particularly focus on the baths complex. The adoption of a systematic approach to site monitoring and maintenance –on a regular basis, and with ad-hoc monitoring tools such as a standard monitoring file, would allow ensuring that any decay is detected from its very beginning and before it seriously damages the structures. Daily maintenance of hospitality services, particularly the toilets, represents a further issue in Qusayr ‘Amra, as frequently reported by the tourists interviewed through the visitor surveys in 2012 and 2013. Site-based management and the daily monitoring that these tasks are properly and timely executed will indeed allow improving site hospitality services and the quality of the visit experience.



Visitors' monitoring pertains to the tourist police and to the guards of the DoA. The continuous repeating of episodes of vandalism and neglect in Qusayr 'Amra suggests that the guarding system needs being improved and reinforced. This may possibly include guards' awareness raising and training, as well as salary increases and reviewed recruitment process. In this regard, strategy and action appear as key needs and fundamental priorities for the sustainable management of the site.

#### 6.4. VISITATION AND INTERPRETATION

This group of issues concerns:

- The object of site presentation and interpretation;
- The vision and strategy for site visitation and interpretation, including actions and tools to convey the values of the site;
- The management of visitors' impact on the conservation of the site;
- The bodies responsible for the design and development of visitation and interpretation actions.

A first, important issue is the lack of a global visitation and interpretation vision based on the full understanding of the site values and targeting their best transmission to visitors through ad-hoc, concrete strategies and actions. This emerges from a series of evidences, such as the lack of access to and information on the other archaeological remains as well as the scanty information on the natural ecosystem, both key aspects of the site's OUV.

Another issue concerns the means and tools adopted to convey site values, which at Qusayr 'Amra particularly include the informative boards displayed along the paths and within the visitor centre, as well as other communication materials within the visitor centre. As it appears, the outdoor panels are few and discoloured, which hampers public access to information. The panels inside of the visitor centre are very technical and time-consuming to read, which does not respond to average tourists' stay in 'Amra, normally between 10 and 20 minutes. Children education tools appear outdated and fail to meet the expectations of the modern youth, which is rather attracted by multimedia learning and interactive resources. The exhibition of materials is exiguous and may be enhanced with the integration of artefacts recovered through later investigations and stored at the DoA. No other informative materials are available on the site such as brochures, booklets and maps. On the contrary, these appear particularly requested by the average visitor in Qusayr 'Amra –a well educated tourist of a certain age and socio-economic background, with interest for further reading and learning. Site presentation and information thus appear as a key development area in Qusayr 'Amra and need to be re-thought in line with the improved understanding of tourism trends and tourist profiles, if the site potential and values are to be fully expressed.

Visitors' management also deserves a note of attention as for:

- The management of tourist flows, and
- The control over tourists' behaviours and their impact on the conservation of the site.

As we have seen in previous chapters, depending on the season visitors' flows tend to concentrate on weekends and at certain times of the day (usually, 10-12 am and 2-4 pm). As long as the number of tourists is not excessive (some tens of thousands per year), these trends do not represent a risk for the conservation of the site. However, should this number increase in the future, this pattern may indeed lead to the overcrowding of the main monument building, with all consequent environmental fluctuations and their impact on the conservation of the paintings.

Visitors' behaviours can also be a concrete risk for the site, particularly vandalism. The scarce awareness

on Qusayr ‘Amra’s values and importance may be part of the root problem, together with the ignorance on appropriate, respectful behaviours and on existing sanctions against heritage damage. Ad-hoc restrictive measures and enhanced guarding services thus appear as a fundamental action to mitigate the harsh impact of visitors’ presence on the site (fig. 6.1).

A last point of attention is the distribution of responsibilities for site development and interpretation between the two competent authorities, the DoA and the MoTA. According to Antiquities Law 21/1988, site presentation is a responsibility of the DoA. By practice, however, tourism development activities in Qusayr ‘Amra are a task of the MoTA, which is in charge of the maintenance and development of the visitor centre. No formal document draws a line between the responsibilities of these two bodies. This creates a grey area of overlapping/disjunctive competences which is not conducive to the effective presentation of the site’s values and which needs clarification in order to enhance visitors’ experience.

### 6.5. RESEARCH AND EXCAVATIONS

This group of issues concerns:

- The object of further investigations and researches;
- The research strategy and modalities.

The archaeological value of Qusayr ‘Amra represents one of the enormous resources of the site because of the scientific elements it brings to the global understanding of Umayyad geopolitical dynamics, but also for its potential contribution to tourism development in the region and in the country. Indeed, the investigation and presentation of other archaeological features besides the baths complex would provide precious information on the original extent of the site as well as on its global set up. Their accessibility for tourism purposes would allow stretching the duration of stay at Qusayr ‘Amra, with increased opportunity for business-related activities on site. Still, most of conservation/presentation activities to date have focused only on the main monument building and its exceptional paintings.

Indeed, in some cases the interventions have addressed some archaeological structures in Qusayr ‘Amra, which is the case for the second *saqiya*, the watchtower, the *qasr* and its nearby open-air mosque. The investigations were designed to fulfill specific scientific interests of the researchers, but were not planned as part of a comprehensive, strategized research plan on the site as a whole. As a consequence, more than 100 years now from the discovery of the site, researchers still do not have a clearer understanding of its inner organization, overall extension, defensive system or function. Another important remark that emerges so far is that, as it appears, none of these archaeological campaigns included a phase of consolidation/restoration and presentation of the excavated structures, which remain abandoned and inaccessible today. What’s more, local habits and culture provide a particularly favorable context for treasures hunting, and an archaeological excavation calls the immediate action of pillagers and looters. This is what has happened at most of the excavated structures in Qusayr ‘Amra, which nowadays are on the verge of complete loss.

One last important issue concerns the documentation of archaeological excavations and their hand-over to responsible authorities, together with collected artifacts. Excavation reports are scanty and, when they exist, they are hardly accessible in the archives of the DoA. Furthermore, often times they are brief and do not provide all key information, such as stratigraphic units sequence and detailed reports, section/plan drawings and photographs, artifacts inventory, excavation/layers levels, etc. The lack of these fundamental pieces of information is a serious issue, because it confines the interpretation of excavation data to the excavators only, and impedes future researchers from their critical revision and re-interpretation –which in other sites has often allowed unexpected discoveries. The hand-over of recovered artifacts upon



completion of excavations represents an additional, serious issue. Indeed, it appears a common practice that the DoA leaves these items with the excavation teams in order to ensure that they be documented and analyzed as per highest investigation standards. Unfortunately, this often leads to their oblivion and consequent loss –as it is the case for some artifacts recovered through the Spanish excavations in the 1970s and now unrecoverable in the country. These artifacts belong to Jordan and its people, and concrete provisions are needed to ensure that their movement be monitored and that they return to their legitimate owners upon completion of the investigations.

### 6.6. FACILITIES, SERVICES AND INFRASTRUCTURES

This group of issues concerns the facilities, services and infrastructures available at Qusayr ‘Amra, including those for tourism-related purposes. Key evidences, in this regard, include:

- The lack of shaded and sitting areas along the paths leading from the site’s entrance to the main monument building;
- The underuse of space in the visitor centre, against a substantial lack of adequate spaces for cultural exhibitions and tourist services (fig. 6.2);
- The lack of proper disabled-friendly accesses and infrastructures;
- The lack of adequate hospitality services, including a cafeteria/restaurant and a bookshop with thematic publications and maps available on site, increasingly required by average tourists.

These issues have emerged through the analysis of the current situation in Qusayr ‘Amra, as well as through discussions with concerned stakeholders (e.g. tourist guides and tour operators) and through the three visitor surveys mentioned in above chapter 4, implemented in Qusayr ‘Amra between 2012 and 2013. Beyond these evidences, the underlying problem seems connected to the lack of a comprehensive, strategic plan for tourism development at the site, based on a thorough understanding of the site’s values and assets. The limited understanding of tourists’ needs and expectations in Qusayr ‘Amra adds up to the previous root problem, given the fact that development actions are not planned against concrete needs.

The design of a comprehensive, value-based tourism development strategy, firmly relying on an accurate analysis of tourists at Qusayr ‘Amra appears as a fundamental precondition for the enhancement of the



Fig. 6.2. Underused spaces in visitor centre



site and its better appreciation. Ad-hoc infrastructural interventions will come at a second stage, and particularly include the set up of a cafeteria and of a bookshop to meet tourists' current needs.

### 6.7. PUBLIC AWARENESS, EDUCATION AND COMMUNITY PARTICIPATION

This group of issues concerns:

- Public knowledge on the cultural and natural significance of the site;
- Public awareness on heritage preservation and appropriate behaviours;
- Modalities and means to enhance public engagement and youth education.

The educational value is one of Qusayr 'Amra's key assets. At present, however, few activities capitalize on this aspect of the site, thus missing an important opportunity to inform new generations on their heritage, origins and identity. This is particularly true for the local communities, especially the youth, in Azraq and Muwaqqar, bearing an intimate link with Qusayr 'Amra and its socio-cultural value throughout centuries.

Scarce awareness on heritage importance and values can also be the basis of the disrespectful, inappropriate behaviour of some visitors. Some of these include Jordanians –adults as well as the youth, as it is unfortunately witnessed by some graffiti signed by “the students of the University of Jordan”, recently discovered in one alcove room. Although this issue is of a broader nature and would require a country-wide educational campaign, local interventions may also be developed to raise visitors' awareness on heritage-friendly behaviours.

As it emerges, education and awareness-raising are a key component of sustainable conservation and management of the site and need being tackled through ad-hoc projects and interventions, particularly at the local level. The full involvement and participation of the local communities is particularly desirable for this aspect of Qusayr 'Amra's management, as these communities are the ultimate owners and stewards of the site.

### 6.8. INVESTMENTS AND FUNDING

This aspect includes:

- National investment to improve Qusayr 'Amra's conservation and tourist appeal;
- Private investment in tourism-related activities.

At the national level the funds available for Qusayr 'Amra are limited and mainly cover basic maintenance and daily running costs such as electricity and cleaning. They are drawn from the global budget of the DoA and amount to few thousands Jordanian Dinars per year. Their sources are also site revenues, which for the specific case of Qusayr 'Amra should be equal to zero, since no ticketing service is active on the site. Some resources are also made available by the MoTA for tourism-related purposes. Although still exiguous, these funds appear slightly more significant and in 2012 allowed for the implementation of a 25,000 JD project to enhance tourist facilities at the site. Globally, these resources do not prove adequate to the size and importance of Qusayr 'Amra, a World Heritage Site and the destination of tens of thousands tourists per year.

On the other hand, hundreds of thousands if not millions of dollars have been and can be invested in the site upon international interest and commitment, as it is the case with the multimillion dollars joint project being conducted at the time of this publication by the DoA, the World Monuments Fund (WMF) and the *Istituto Superiore per la Conservazione e il Restauro* (ISCR). International projects fulfil



international agendas, and this has produced a redundancy of interventions repeatedly targeting the most attractive aspect of Qusayr 'Amra, namely the main monument building and its paintings. At the same time, excessive reliance on international investments may cause an abrupt termination of site development actions once international interest should cease. Despite the existence of an International Cooperation Unit within the DoA, no project has been designed and fundraised by the DoA itself, which makes it strongly dependant on foreign capitals.

Appropriate site development and management would indeed require, among others, the continuous research of opportunities for site enhancement and tourist fidelity promotion through continuous site investigations, exhibitions setting and communication/marketing campaigns, also targeting national visitors and aiming at reducing the yearly decline of site visits. This could be done, among others, by favouring the creation of a network of tourism infrastructures in the area, which would allow networking among the multiple cultural and natural resources available in the Governorates of Azraq and Mafraq. Budget allocation and fundraising reinforcement thus appear as a fundamental need for the most appropriate conservation and presentation of Qusayr 'Amra, if the site is to fulfill international commitments and expectations as a World Heritage Site and as a regional and national emblem of early Islamic culture and arts.

As it concerns private investments, these are still limited, but there is increasing interest at local and national levels towards an increase of tourism in the *badiya* region. This interest should be encouraged on one side, but also managed and directed in order to avoid inappropriate activities being implemented, which could harm the site, its values, and ultimately also the possibility to have long term economic benefits from its presence in a still relatively unspoilt region of the country. The combination of natural and cultural features in the *badiya* is an asset to conserve and its sustainable management and exploitation for eco-tourism and conservation initiatives should be implemented as soon as possible in order to encourage local community participation and bring the government to adopt long term conservation measures in the region.

THEME	PROBLEM	LEVEL OF THREAT/ RISK		
		Low	Med	High
<b>Legal and institutional framework</b>	The lack of official boundaries and of DoA's rights over the land hamper full enforcement of protection laws			X
	The lack of an official body within the DoA to coordinate actions on site challenges the design and implementation of strategic, concerted interventions on site		X	
	The lack of clear tasks' division and of a formal coordination mechanism between MoTA and DoA allow for piecemeal approach to site conservation, management and presentation			X
	Remote site management does not allow for the daily supervision of site-based actions and staff and for punctual and immediate coordination of interventions as per emerging needs		X	
	Stakeholders' limited awareness on provisions set forth by Antiquities Law 21/1988 limits their proactive coordination with the DoA on the planning and execution of development works in the area, with an adverse impact on the archaeological deposits and on the conservation of the site's archaeological context and structures.			X
	The guards' limited capacities and heritage awareness have an impact on the effectiveness of the guarding system and limit their commitment and motivation in ensuring highest protection to the site		X	
	The focus on the conservation and documentation of the baths complex limits the interest and interventions on other site features, with progressive loss of other, fundamental site values		X	
	The lack of DoA's consultation regarding planned development works and their potential impact on the archaeological deposits, together with the lack of rescue/emergency interventions and archaeological assistance during their execution hampers the conservation, investigation and documentation of archaeological deposits and possible findings			X
	Natural agents (e.g. sandstorms, floods, animals etc.) and man-made threats (e.g. vandalism, visitors flows etc.) damage the structures and deposits and provoke their progressive decay, but no detailed study indicates results-based conservation strategies and actions.			X
	The lack of guidelines/conservation protocol indicating the principles, practices and minimum professional expertise required to intervene represents a threat to the site's conservation, authenticity and integrity			X
<b>Conservation and documentation</b>	Scarce and hardly accessible documentation on conservation campaigns limits the possibility to plan new interventions based on previous achievements and challenges		X	
	The monitoring and maintenance of the archaeological remains principally focused on the baths complex and it is carried out on a responsive basis, thus not allowing preventive maintenance and risk reduction			X
	Although a key site value, the ecosystem is not part of site monitoring, and this is allowing its progressive deterioration			X
<b>Maintenance and monitoring</b>	Slow or non-existing response by concerned protection bodies does not allow impeding and/or sanctioning illegal actions			X
	Visitation and interpretation focus on some aspects of the site, particularly the baths complex, leaving other key features and values (e.g. other archaeological structures, natural value) in the shadow	X		
	Visitation and interpretation strategies and actions are designed without clear analysis and understanding of the target tourist and are perceived as insufficient to the average visitor of any age.	X		
<b>Visitation and interpretation</b>	Visitation and interpretations strategies are developed by competent authorities without a common and agreed strategy plan, with consequent duplication of interventions and waste of funds and energies, as well as with no full consideration for values-based development		X	
	Tourist flows seemingly impact the conservation of the structures and paintings, but the lack of clear tourism impact assessments do not allow for quantitative and results-based tourist management policies and guidelines at the site		X	
	Inappropriate and disrespectful behaviours and the lack of awareness on heritage preservation and values have an adverse impact on the conservation of the paintings, but no communication tool exists on site to inform on most suitable conducts nor on penalties against the damage of cultural heritage			X
	Research and excavation focus on the most appealing and best known elements of the site, leaving in the shadow and almost unexplored the other sites and structures, thus limiting a thorough understanding and presentation of the site as a whole		X	
<b>Research and excavations</b>	Archaeological excavations normally do not include a conservation/presentation component, which limits the possibility to present these features to the larger public and which has led to the progressive deterioration of the excavated areas and structures			X
	Scarce and hardly accessible documentation on previous excavations limits the possibility to reinterpret this information and to integrate old data with new acquisitions and discoveries			X
	Limited monitoring by Local Authorities over the management and storage of excavated artefacts facilitates their displacement within and outside the country, with the subsequent risk of its complete loss			X

THEME	PROBLEM	LEVEL OF THREAT/RISK		
		Low	Med	High
Maintenance and monitoring	The monitoring and maintenance of the archaeological remains principally focused on the baths complex and it is carried out on a responsive basis, thus not allowing preventive maintenance and risk reduction			X
	Although a key site value, the ecosystem is not part of site monitoring, and this is allowing its progressive deterioration			X
	Slow or non-existing response by concerned protection bodies does not allow impeding and/or sanctioning illegal actions			X
Visitation and interpretation	Visitation and interpretation focus on some aspects of the site, particularly the baths complex, leaving other key features and values (e.g. other archaeological structures, natural value) in the shadow	X		
	Visitation and interpretation strategies and actions are designed without clear analysis and understanding of the target tourist and are perceived as insufficient to the average visitor of any age.	X		
	Visitation and interpretations strategies are developed by competent authorities without a common and agreed strategy plan, with consequent duplication of interventions and waste of funds and energies, as well as with no full consideration for values-based development		X	
Research and excavations	Tourist flows seemingly impact the conservation of the structures and paintings, but the lack of clear tourism impact assessments do not allow for quantitative and results-based tourist management policies and guidelines at the site		X	
	Inappropriate and disrespectful behaviours and the lack of awareness on heritage preservation and values have an adverse impact on the conservation of the paintings, but no communication tool exists on site to inform on most suitable conducts nor on penalties against the damage of cultural heritage			X
	Research and excavation focus on the most appealing and best known elements of the site, leaving in the shadow and almost unexplored the other sites and structures, thus limiting a thorough understanding and presentation of the site as a whole		X	
Facilities, services and infrastructures	Archaeological excavations normally do not include a conservation/presentation component, which limits the possibility to present these features to the larger public and which has led to the progressive deterioration of the excavated areas and structures			X
	Scarce and hardly accessible documentation on previous excavations limits the possibility to reinterpret this information and to integrate old data with new acquisitions and discoveries			X
	Limited monitoring by Local Authorities over the management and storage of excavated artefacts facilitates their displacement within and outside the country, with the subsequent risk of its complete loss			X
Public awareness, education and community participation	The quality and impact of the visit is much undervalued due to the limited use of the visitor centre and to the lack of appropriate spaces for exhibitions and hospitality services	X		
	The site is not accessible to people with disabilities due to the lack of proper disabled-friendly accesses and infrastructures	X		
	There is no budget specifically established for maintenance and other conservation works at Qusayr 'Amra, and this hampers periodic maintenance interventions as well as the possibility to further design and implement conservation and investigations there			X
Investments, marketing and funding	Scarce knowledge of heritage value and of appropriate behaviours in heritage sites generate distorted behaviours, including illicit looting and acts of vandalism against it.			X
	The site is hardly visited by schools, particularly from the surrounding communities in Azraq and Muwaqqar, with consequent impact on youth education and heritage awareness and the lack of capitalization on the educational value of the site	X		
	The visit to the site is difficult due to the lack of shaded and sitting areas along the paths leading from the site's entrance to the main monument building	X		
Public awareness, education and community participation	Projects depend on international funds, and this biases intervention priorities and reduces the local authorities' independence in strategic development planning and actions. No autonomous fundraising activity is conversely carried out to balance this situation with the implementation of self-led projects by local authorities	X		
	Scarce tourism development activities are currently in place to enhance the economic value of the site, which limits the possibilities for socio-economic development in the area and thus the motivated interest of the local community in the preservation of the site	X		

Fig. 6.3. Key threats and risks on the conservation and presentation of the site's values, authenticity and integrity



## **SECTION III**

### **SITE MANAGEMENT PLANNING**

**Chapter 7 – Vision, aims and policies**

**Chapter 8 – Strategies and actions**

**Chapter 9 – Plan implementation**





Mosaic floor, detail. Eastern alcove.



## CHAPTER 7 – VISION, AIMS AND POLICIES

This chapter presents the long-term vision for the conservation and management of Qusayr ‘Amra, together with the aims and policies that will ensure pursuing it. While the vision addresses the site as a whole complex of values, features and assets, the aims and policies will be presented as a response to the thematic issues as emerging through the problem analysis of chapter 6. They will therefore target:

1. The appropriate use of the site (Aim: USE; Policies: USE.1-3)<sup>24</sup>;
2. The legal and institutional framework of the site (Aim: LEG; Policies: LEG.1-6);
3. The conservation and documentation of the site (Aim: CON; Policies: CON.1-9);
4. Its maintenance and monitoring (Aim: MNT; Policies: MNT.1-5);
5. Its visitation and interpretation (Aim: TOU; Policies: TOU.1-6);
6. The development of research and excavations (Aim: REX; Policies: REX.1-5);
7. The facilities, services and infrastructures available on site (Aim: FSI; Policies: FSI.1-6);
8. Public awareness, education and community participation (Aim: EDU; Policies: EDU.1-5);
9. The investments and funds for site conservation and development (Aim: FND; Policies FND.1-4).

On top of these aspects, the aims and policies will preliminarily ensure that an appropriate use be made of the site and that tourism and other development activities remain compatible with the core values, authenticity and integrity of Qusayr ‘Amra World Heritage Site (WHS).

### 7.1. VISION

*Qusayr ‘Amra World Heritage Site is an exceptional site that illustrates the transition from the Late Antique to the early Islamic era and which displays the most extensive cycle of figurative paintings of Umayyad times. These elements bear an outstanding universal value to the whole humankind, as it is recognized by Qusayr ‘Amra’s inscription in the UNESCO World Heritage List. The long-term, sustainable conservation and presentation of the site’s values, of its authenticity and integrity are a fundamental commitment of Jordan towards its people and the whole humankind. These values shall be further enhanced through continuous research and investigations by the national and international scientific community. Sustainable conservation and site development will be reinforced through education and income-generating activities, to ensure that strong socio-cultural ties link Qusayr ‘Amra to the local community and to its visitors. These various aspects will be addressed through the collaborative efforts of the Jordanian authorities and its international partners, in the framework of this comprehensive Site Management Plan.*

### 7.2. AIMS AND POLICIES

#### 7.2.1. Appropriate use

*Aim (USE)*

Qusayr ‘Amra is an exceptional World Heritage Site conserving among the most unique examples of early

<sup>24</sup> In order to facilitate internal and external reference, the proposed nine aims are indicated by short abbreviations, as follows: i) USE (Appropriate use); ii) LEG (Legal and institutional framework); iii) CON (Conservation and documentation); iv) MNT (Maintenance and monitoring); v) TOU (Visitation and interpretation); vi) REX (Research and excavation); vii) FSI (Facilities, services and infrastructures); viii) EDU (Public awareness, education and community participation); ix) FND (Investments, marketing and funding). Policies are indicated by a code composed of the above abbreviation followed by a number, e.g. LEG.1 will indicate policy 1 under aim LEG (Legal and institutional framework).



Islamic culture and figurative art. As such, the use of the site will ensure that it remains authentic to its original configuration and setting, including the preservation of its natural ecosystem.

*Policies (USE.1-3)*

- USE.1:** Any modification to the current use of the site will abide to the long-term vision, aims and policies set forth in the present Site Management Plan (SMP), and is subordinated to the conservation of the site's values, authenticity and integrity.
- USE.2:** Any modification in site use will be discussed and agreed upon by the key competent authorities, namely the Ministry of Tourism and Antiquities (MoTA) and the Department of Antiquities (DoA). Its most appropriate implementation will be validated by the DoA's Sites Management Directorate (SMD) and will be supervised by the Site Manager (SM).
- USE.3:** Guidelines will be developed by the SMD, in close consultation with the SM and other concerned stakeholders, to ensure the sustainable use of the site by private and public institutions and by individuals.

**7.2.2. Legal and institutional framework**

*Aim (LEG)*

The legal and institutional framework will be conducive to the conservation and presentation of the site's values, authenticity and integrity and will ensure the enforcement of protection by-laws, the strategic and coordinated management of the site and its field-based monitoring and supervision.

*Policies (LEG.1-7)*

- LEG.1:** The protected area will be defined by clear, official boundaries assigned by the MoTA and registered by the Department of Lands and Survey to cover the whole archaeological complex and a buffer area adequate to avoid future encroachments or conflicting development works. Once established, boundaries and buffer zones limits and regulations will be periodically reviewed in order to guarantee the protection of the site values.
- LEG.2:** The protected area will be subject to enhanced enforcement of Antiquities Law 21/1988 and penalties will be applied upon its infringement, particularly on the occasion of the development works implemented by any national or international body without previous written authorization by the DoA. In this regard, the DoA will ensure broad dissemination of the site's boundaries, the existing protection by-laws and related infringement penalties among relevant national and international stakeholders.
- LEG.3:** Clear guidelines will be developed to clarify on respective competences and tasks of the two key authorities in Qusayr 'Amra, the DoA and the MoTA. The former will be responsible for all activities directly or indirectly concerning the antiquities (exposed or buried), while the latter will be in charge of the visitor centre, its management and development. The two bodies will actively collaborate towards the set up of common strategies and action plans at the site, as detailed in policy 4 below.
- LEG.4:** The management of Qusayr 'Amra will be articulated in three levels (fig. 7.1):
- a. Strategic, that will identify the strategy and actions to be undertaken in Qusayr 'Amra over the medium and short term, respectively through a Medium Term Strategy (MTS) and a Site Annual Plan (SAP). The MTS will provide a global site strategy over a time span of five years. The SAP will be based on the MTS and it will provide an annual action framework,

including budget for its implementation. Both the MTS and the SAP will address the key thematic issues as presented in this SMP, namely site conservation and documentation, maintenance and monitoring, visitation and interpretation, research and excavations, facilities and infrastructural development, public awareness, education and community participation, investment and funding. The MTS and the SAP will be developed in full accordance with the vision and policies of this SMP and with Antiquities Law 21/1988, and they will equally have a legally binding value. They will be prepared on a regular basis prepared by a Joint Committee of technical experts, incorporating members of MoTA and DoA, as detailed in paragraph 8.2.1. below. In this regard, the MTS will be revised and updated every five years, while the SAP will be prepared every year. As in the case of this SMP, the MTS and the SAP will be approved by the Director General of Antiquities and they will be endorsed by the Minister of Tourism and Antiquities.

- b. Coordination, executed by the DoA through the SMD and its World Heritage Sites Section (WHSS). The SMD will report to Director General of Antiquities and will coordinate and supervise the correct execution of the above-mentioned strategic actions as expressed by the SAP, in full accordance with relevant policies and guidelines. The SMD will be part of the above-mentioned Joint Committee of technical experts and it will also act as its Secretariat. The SMD will thus be in charge to ensure that the Joint Committee regularly meets and works as needed for the timely submission of the SAP and the MTS to the Director General's approval, respectively yearly and every five years. The SMD will also ensure the largest communication and coordination with relevant national and international stakeholders through the organization of periodic meetings and through the set-up of ad-hoc information sharing mechanisms and tools.
- c. Implementation, carried out by the Site Management Unit (SMU) that will ensure the proper execution of the actions assigned by the SMD and that will report back to the SMD through the inspector of the competent Regional Directorate. In an initial phase, this duty will be undertaken by the SM, supported by other staff as needed.

**LEG.5:** This SMP will be approved by the Director General of Antiquities and it will be forwarded to the Minister of Tourism and Antiquities for its endorsement. Once approved, this SMP will have a binding value for all actions to be undertaken on site. This SMP will be periodically reviewed to adapt to new emerging needs, in conjunction with the preparation of the MTS. A first evaluation of this SMP and its consequent readjustment as per emerging needs and most appropriate actions will be implemented after one year from its entry into force.

**LEG.6:** The management of conservation, presentation, investigation and other development actions at the site will be based on the long-term preservation of the site's values, authenticity and integrity and will abide to the vision, aims and policies set forth in this SMP.

**LEG.7:** The capacities of staff, including field-based guards and tourism professionals, will be reinforced to ensure their optimal engagement and motivation in site conservation, management and monitoring.

### 7.2.3. Conservation and documentation

#### *Aim (CON)*

Qusayr 'Amra will be conserved in its setting, form and material, respecting its authenticity and integrity, in order to maintain the Outstanding Universal Value (OUV) of the entire site, including the annex buildings and its physical and environmental contexts. Site conservation will particularly endeavor counteracting man-made and natural threats and will ensure the long-term sustainability and minimum impact of interventions, as per highest international standards. Accurate, periodic and accessible documentation will

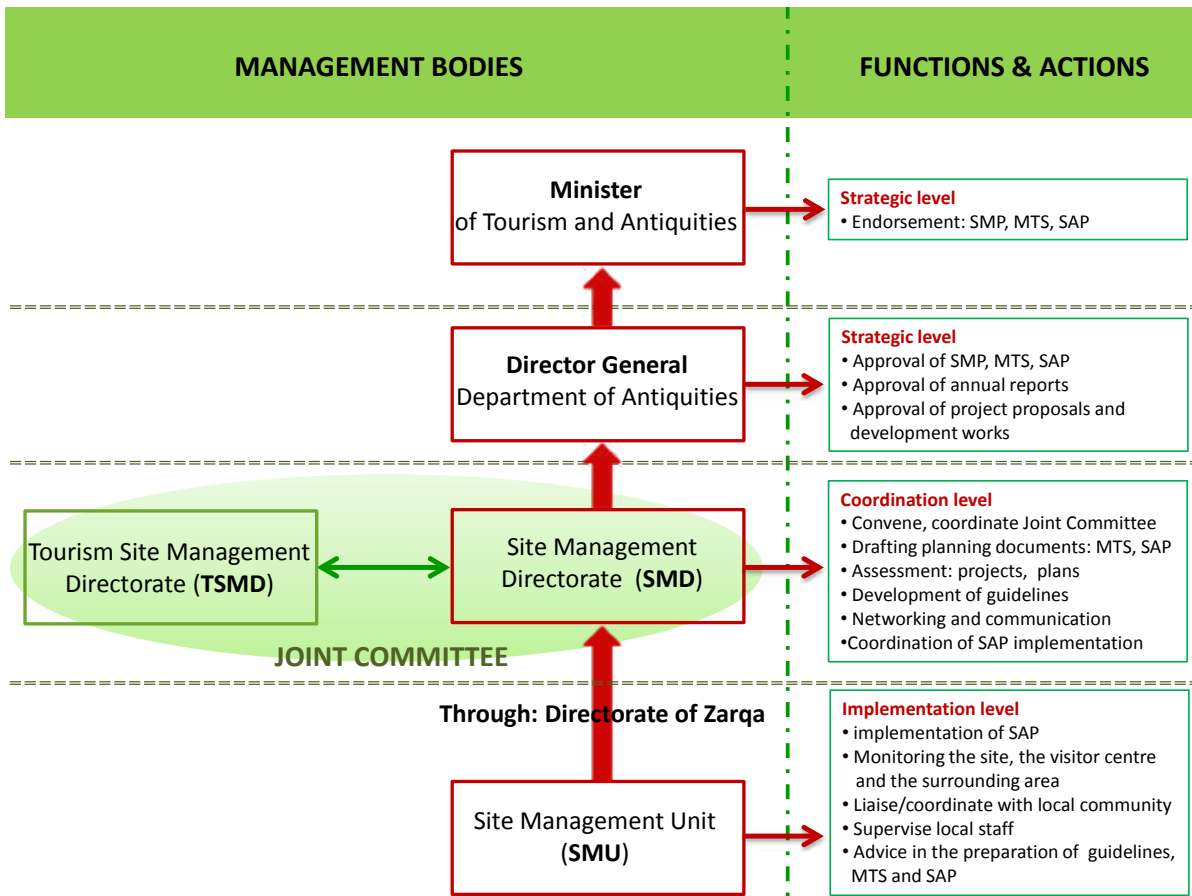


Fig. 7.1 . Proposed management structure for Qusayr ‘Amra World Heritage Site

ensure transparency of interventions and their continuous revision in the light of new technical discoveries and acquisitions.

*Policies (CON.1-9)*

- CON.1:** Site conservation will seek the holistic preservation of cultural and natural values through a balanced distribution of interventions on the diverse features of the site.
- CON.2:** A mid-term conservation strategy will be defined by the DoA in consultation with concerned national and international stakeholders, and will be incorporated as part of the MTS. The strategy will be turned into concrete actions on a yearly basis based on their importance, urgency and on existing opportunities. These actions will be incorporated as part of the SAP and will define conservation needs, priorities and estimated budget needs.
- CON.3:** Conservation interventions will be coordinated by the SMD. Their implementation will be ensured by the SMU under the supervision of the SM, who will be responsible for their correct execution as per highest technical and scientific standards.
- CON.4:** The SMD will also ensure that appropriate natural impact reduction actions and policies are developed through the set up of regular coordination meetings and ad-hoc information sharing mechanisms and tools with relevant stakeholders and environmental conservation agencies.
- CON.5:** The execution of any development work on site will be subordinated to the SMD’s approval and validation. In this regard, the SMD will seek the advice of the SMU to assess the potential impact of planned development works over the cultural and archaeological values of the site.



The SMD will entrust relevant environmental conservation agencies to assess development works' impact on the local ecosystem. Where applicable, the execution of development works will be sided by salvage/rescue archaeological activities carried out by experienced archaeologists and/or environmentalists to ensure that no damage is brought onto the conservation of the site's cultural and natural values, authenticity and integrity.

- CON.6:** Conservation guidelines will be developed to counteract man-made and natural threats and risks. Conservation guidelines will also indicate the principles guiding conservation interventions on site, as per international standards and with particular reference to: i) long-term sustainability; ii) minimum impact on the authenticity and integrity of the site; iii) reversibility. They will also recommend that conservation works be executed by experienced professionals, and will provide minimum educational and professional requirements.
- CON.7:** Conservation guidelines will be based on thorough quantitative and qualitative studies of key emerging threats and risks, and will identify clear procedures for results-based risk mitigation, including through monitoring/guarding practices, on-site behavioural standards, environmental benchmarks and tourism flow management.
- CON.8:** Conservation guidelines will provide clear instructions for documentation and reporting on conservation interventions, particularly: i) the periodicity of the reports; ii) the content of the reports; iii) the modalities for submission of the reports; iv) the photographic documentation to be attached to the reports.
- CON.9:** Documentation and reports will be archived in the Qusayr 'Amra's Documentation Centre (QADoC). The QADoC will be physically accessible on site or at the DoA's premises, but may also become available online through contents' digitization, with the view to enhance the internationalization of researches and studies on the site.

#### 7.2.4. Maintenance and monitoring

##### *Aim (MNT)*

Regular site monitoring and maintenance will ensure that the values of the site, its authenticity and its integrity remain intact and are properly conveyed to the local, tourist and scientific communities. Tourism flows will also be closely monitored to reduce their impact on the site.

##### *Policies (MNT.1-5)*

- MNT.1:** A mid-term maintenance strategy will be defined by the MoTA and the DoA and it will be incorporated as part of the MTS. The strategy will be turned into concrete actions on a yearly basis based on their importance, urgency and on existing opportunities. These actions will be incorporated as part of the SAP and will define conservation needs, priorities and estimated budget needs.
- MNT.2:** Site monitoring and maintenance will be coordinated by the SMD and supervised by the SMU for all that concerns the archaeological remains. The SMU will periodically seek the advice of environmental agencies to monitor the state of conservation of the local ecosystem. Tourists' monitoring will be entrusted to the guards under the close supervision of the SM.
- MNT.3:** Monitoring and maintenance of archaeological structures will occur on a regular basis and at least once every four months, based on an annual action plan to be incorporated as part of the SAP. Guidelines and protocols for site monitoring and management will be developed by the SMD in close collaboration with the MoTA and following the advice of the SM. Environmental monitoring and needed interventions will occur according to the same plan, at least once every year.



- MNT.4:** Monitoring and maintenance of hospitality services will be ensured by the SMU under the direct supervision of the SM and in close coordination with the MoTA, and their quality will aim to attain high international standards as per global tourism expectations.
- MNT.5:** Tourists will be closely monitored by the guards throughout the opening hours of the site, and the number of guards available on site will be revised based on effective needs. At least one guard will remain at the baths complex to ensure that no vandalism occurs during visiting time. A security system will also be considered within the main monument building to integrate tourists' monitoring, and will be concurrently used towards the enforcement of Antiquities Law 21/1988 and the application of penalties against acts of vandalism occurring at the site.

### 7.2.5. Visitation and interpretation

#### *Aim (TOU)*

Qusayr 'Amra will be interpreted, presented and marketed to foster the thorough understanding of its cultural and natural values as expressed by the SMP. Communication and tourism strategies will be designed to meet tourists' needs and expectations, and will endeavor to minimize visitation's impact on site conservation. The MoTA and the DoA will concertedly collaborate to ensure highest interpretation and visitation standards through the synergy of their specific expertise and competences.

#### *Policies (TOU.1-6)*

- TOU.1:** Visitation and interpretation will abide to the long-term vision, aims and policies set forth in this SMP and they will seek the holistic presentation of the site's cultural and natural values, including through incorporation of annex archaeological structures in the overall visiting package. The site will be promoted to the relevant institutions to ensure its enhanced inclusion in national and international visiting circuits and tourism offers.
- TOU.2:** A mid-term visitation and interpretation strategy will be defined by the MoTA and DoA in consultation with concerned national and international stakeholders, and will be incorporated as part of the MTS. The strategy will be turned into concrete actions on a yearly basis based on their importance, urgency and on existing opportunities. These actions will be incorporated as part of the SAP and will define conservation needs, priorities and estimated budget needs on a yearly basis.
- TOU.3:** Concrete implementation of annual tourism development actions will be coordinated by the SMD and supervised on site by the SMU, and will be subordinated to the conservation of the site's values, authenticity and integrity. In this regard, tourism development activities will be preceded by cultural and environmental impact assessments, to ensure that no major threat emerges to the preservation of the site's values.
- TOU.4:** Tourism development actions will be designed based on a thorough analysis of visitors' profiles and needs, in order to ensure results-based investment of existing resources. In this regard, current communication means and services will be revised and improved to respond to the increased demand for multimedia information sources on site.
- TOU.5:** Tourism management guidelines will be developed should conservation studies prove that an excess of tourists bears a concrete, serious threat to the conservation of the site. In this regard, carrying capacity studies will allow identifying the most appropriate strategies for the management of visitor flows.

### 7.2.6. Research and excavations

#### *Aim (REX)*

Research in Qusayr ‘Amra will be promoted in order to reinforce and further enhance the OUV of the entire site. Renewed debate will be fostered on the historic and artistic context of the paintings, and further excavations will be programmed on the overall archaeological context to allow its interpretation and the relationship with other Umayyad sites in the Jordanian *badiya*. Investigations will be undertaken as per the highest international standards and will ensure that their outcomes are accessible to the international community and the larger public. Accurate, periodic and accessible documentation of excavations will ensure transparency of interventions and their continuous revision in the light of new technical discoveries and acquisitions. Provisions will be made to ensure that recovered artifacts are accurately recorded, declared and returned to the local authorities upon completion of researches.

#### *Policies (REX.1-5)*

- REX.1:** Research and excavations will abide to the long-term vision, aims and policies set forth in this SMP and they will seek the holistic investigation of cultural and natural values through a balanced distribution of interventions on the diverse components of the site. A medium-term research strategy will be defined by the DoA in consultation with concerned national and international stakeholders, and will be incorporated as part of the MTS. The strategy will be turned into concrete actions on a yearly basis based on their importance, urgency and on existing opportunities. These actions will be included in the SAP and will define conservation needs, priorities and estimated budget needs on an yearly basis.
- REX.2:** Research and excavations will be coordinated by the SMD and their implementation will be supervised by the SM, who will be responsible for their correct execution as per highest technical and scientific standards.
- REX.3:** Research and excavations will be executed by national and international bodies of high professional standard and will abide to the Antiquities Law 21/1988 and to the Regulations for Archaeological Excavations and Surveys in Jordan (2013). Specific guidelines will be developed to ensure that they are carried out correctly and particularly that: i) excavation reports are provided to the DoA on a regular basis and contain all relevant scientific information for their future analysis and reinterpretation; ii) consolidation and presentation interventions are guaranteed upon completion of excavations, where applicable; iii) artifacts are documented, catalogued, inventorized and returned to local authorities within a maximum time limit.
- REX.4:** Archaeological research and debate will be encouraged through the organization of dedicated seminars and study days.
- REX.5:** Documentation and reports will be archived in the QADoC set up as part of this SMP (see also policy CON.9).

### 7.2.7. Facilities, services and infrastructures

#### *Aim (FSI)*

Qusayr ‘Amra World Heritage Site is a unique site that deserves services and facilities appropriate to its fame. The visitor centre will be upgraded, services will be improved, and exhibits redesigned in order to bring these services to par with international standards. Site development will not conflict with site conservation, and it will be subordinated to the preservation and enhancement of the site’s values, authenticity and integrity.



*Policies (FSI.1-6)*

- FSI.1:** The development of facilities and services will abide to the long-term vision, aims and policies set forth in this SMP. They will be planned based on a thorough analysis of tourist needs and physical/environmental constraints, to ensure the best hospitality on site.
- FSI.2:** A mid-term development strategy will be defined by the MoTA and DoA in consultation with concerned national and international stakeholders, and will be incorporated as part of the MTS. The strategy will be turned into concrete actions on a yearly basis based on their importance, urgency and on existing opportunities. These actions will be incorporated as part of the SAP and will define conservation needs, priorities and estimated budget needs on a yearly basis.
- FSI.3:** The concrete implementation of development actions will be validated by the SMD and implemented on site by the SMU under supervision of the SM, and it will be subordinated to the conservation of the site's values, authenticity and integrity.
- FSI.4:** Site development projects will be preceded by cultural and environmental impact assessments, to ensure that no major threat emerges to the preservation of the site. Where applicable, development works will be assisted by experienced archaeologists and/or environmentalist for salvage/rescue operations, to ensure their minimum impact on the cultural and natural values of the site.
- FSI.5:** Hospitality services will be enhanced to international standards and expectations and will include the setting up of a book/souvenirs shop, the provision of adequate disabled-friendly facilities and of shadows/resting areas in the site. Assessments will be conducted on the opportunity to further reinforce the rest/refreshments currently offered at the entrance of the site and a study on the provision of temporary tent camps to allow overnight stays, managed by the local community and placed outside of the site's buffer zone. The maintenance and cleaning of these services will be endowed to skilled, site-based professionals under the supervision of the SM.
- FSI.6:** Facilities' improvement and landscaping will respect the original environment, they will not introduce foreign elements and will keep to a minimum any new addition to existing structures.

**7.2.8. Public awareness, education and community participation**

*Aim (EDU)*

Qusayr 'Amra will represent an expression of Jordanian identity and culture, and its legacy will be recognized and protected by locals and nationals as part of a common heritage. Awareness will be spread among adults and the youth on its values and assets, and heritage-friendly behaviours will be channelled here to educate a whole new generation of Jordanians to the conservation and respect for their past and their environment.

*Policies (EDU.1-5)*

- EDU.1:** Education and public awareness will be a core element of site management and presentation. They will abide to the long-term vision, aims and policies set forth in this SMP and they will seek the holistic presentation of the site's cultural and natural values.
- EDU.2:** A mid-term education and awareness-raising strategy will be defined by MoTA and the DoA in consultation with concerned national and international stakeholders, and will be incorporated as part of the MTS. The strategy will be turned into concrete actions on a yearly basis based on their importance, urgency and on existing opportunities. These actions will be incorporated as part of the SAP and will define conservation needs, priorities and estimated budget needs on a yearly basis.



- EDU.3:** The implementation of education and awareness raising actions will be coordinated by the SMD and supervised by the SM, who will seek support from concerned local and international stakeholders to ensure adherence with highest international standards.
- EDU.4:** Education and public awareness will equally target adults and the youth, but they will particularly endeavour to engage the latter through the establishment of official heritage education and field-based opportunities, in order to facilitate the dissemination and promotion of heritage-friendly behaviours and a culture of heritage preservation.
- EDU.5:** Education and public awareness will particularly seek the involvement of local communities, both adults and the youth, through the development of permanent exchanges, projects and activities for ad-hoc dissemination of the site's values across schools and in other public venues. Such projects will be developed and implemented in close collaboration with local NGOs and other cultural/educational organizations in Azraq and in Muwaqqar.

### 7.2.9. Investments, marketing and funding

#### *Aim (FND)*

Qusayr 'Amra will be allocated an annual budget for its regular maintenance and for site development, including tourism enhancement. Extra-budgetary funds will be ensured through ad-hoc fundraising activities to promote site conservation, investigation and presentation. Community-based activities aiming at tourism development in Qusayr 'Amra and in the surrounding badiya will be supported to enhance heritage-driven development in the area and to reinforce community participation into site conservation and presentation.

#### *Policies (FND.1-4)*

- FND.1:** Budgeting and funding will abide to the long term vision, aims and policies of this SMP and will ensure the conservation and sustainable development of the site's values, authenticity and integrity.
- FND.2:** Qusayr 'Amra will be allocated a site budget for ordinary conservation and development activities. A mid-term budget estimate and strategy will be defined by the MoTA and DoA and will be incorporated as part of the MTS. These estimates will be turned into concrete yearly budgeting to supply the resources for the implementation of the actions planned within the SAP. Budget allocations will be coordinated by the MoTA and DoA as per respective competencies and responsibilities.
- FND.3:** Other conservation, research, documentation and/or development projects will be carried out through the combined input of national and international funds as per upcoming needs and priorities. Depending on situations, fundraising actions may be initiated by DoA and/or MoTA. The formal preparation and submission of project proposals will be entrusted to the competent Departments/Units in the MoTA and in the DoA and communication will be ensured to ensure continuous updates on funds' availability and site development perspectives.
- FND.4:** Private initiative and community involvement will be further enhanced by supporting income-generating activities directly linked to the preservation and presentation of Qusayr 'Amra. To this end adequate surveys, studies and meetings with the local community as well as liaisons with other cultural/economic projects will be organized to assess existing opportunities for culture-based economic development in the area.





Detail of the Six Kings panel, after conservation



## CHAPTER 8 – STRATEGIES AND ACTIONS

Based on the policies presented in above chapter 7, this chapter introduces for each aim and policy statement a series of strategic axes meant to frame the specific actions required to achieve such aims.

### 8.1. APPROPRIATE USE

#### 8.1.1. Guidelines and implementation (actions under policy USE.3<sup>25</sup>)

**USE.3.1:** Develop guidelines for the sustainable use of the site, including clear and strong use limitations to protect the Outstanding Universal Value (OUV) of the site. The guidelines will also incorporate provisions concerning requests from public and private institutions and individuals for the use of the site for public or private events.

### 8.2. LEGAL AND INSTITUTIONAL FRAMEWORK

#### 8.2.1. Definition and enforcement of legal provisions and boundaries (actions under policies LEG.1-2)

**LEG.1.1:** Verify and follow-up on boundaries' registration by the Department of Lands and Survey as declared by the Minister of Tourism and Antiquities in 2013. Ensure that the land within the boundaries is assigned to the Department of Antiquities (DoA) as per Antiquities Law 21/1988.

**LEG.1.2:** Clearly mark the boundaries by means of signposts and permanent markers.

**LEG.1.3:** Regularly monitor and review boundaries and buffer zones limits and regulations, in order to avoid infringements and adjust as required by changing circumstances.

**LEG.1.4:** Ensure enforcement of penalties for the infringement of boundaries and buffer zones and widely disseminate their awareness among national and international stakeholders.

**LEG.1.5:** At least in a first phase, consider fencing individual archaeological sites before their conservation.

**LEG.2.1:** Promote and foster awareness on Antiquities Law 21/1988 and particularly the legal implications on the destruction of antiquities among all concerned stakeholders.

**LEG.2.2:** Promote and enforce among all stakeholders the authority of the DoA with regards to all activities directly or indirectly concerning the site, as per provisions set forth in Antiquities Law 21/1988.

#### 8.2.2. Definition of responsibilities concerning the site (actions under policy LEG.3)

**LEG.3.1:** Develop guidelines clarifying the respective responsibilities of the Ministry of Tourism and Antiquities (MoTA) and of the DoA within the perimeter of the site and its buffer zone.

#### 8.2.3. Configuration of the management system and of legal obligations (actions under policies LEG.4-6)

**LEG.4.1:** Reinforce the existing World Heritage Sites Section (WHSS) within the Sites Management

<sup>25</sup> Actions are numbered by policy, and are thus indicated by the policy code followed by a progressive number. For example, USE.3.1 will indicate action 1 under policy 3 of aim USE (Appropriate use). The number of actions per policy may vary from zero to infinite, depending on the direct follow-up required to implement them.



Directorate (SMD) at the DoA. The SMD and the WHSS will coordinate the implementation of the Site Annual Plan (SAP) and they will act as the Secretariat to the Joint Committee of technical experts, thus coordinating on the draft of the site's Medium Term Strategy (MTS) and SAP. The SMD will have a director and personnel adequate to the SMD's tasks and functions, including: i) expertise in fundraising activities and the development of project proposals; ii) expertise in international by-laws and mechanisms, particularly in the World Heritage Sites section. The SMD will be the Director General of Antiquities. Its responsibilities are further detailed in chapter 9 below.

**LEG.4.2:** Set up a Site Management Unit (SMU) for the concrete implementation of the SAP and monitoring of field-based operations and actions. The SMU will be composed of a field-based Site Manager (SM) and of staff as required by the site's needs. Initially, the SMU will include staff that is already based on site, namely: i) ticket vendors; ii) ticket observers; iii) guards. On the longer term, the SMU will also include other competencies and expertise, such as: maintenance workers, a conservation specialist, and interpretation officer etc. The SMU will be coordinated by the SM, who will also monitor the quality performance of MoTA's staff currently allocated to the site, namely the site cleaners and the Visitor Centre's supervisors. In this regard, the SM will report to MoTA's TSMD concerning all arising issues with MoTA's field-based staff, for MoTA's prompt action. In the initial phases of implementation of this Site Management Plan, the set up of the SMU will thus ensure that the SM has some official authority over MoTA's staff through a formal agreement with MoTA. The SM will report to the SMD through the inspector of the regional Directorate in Zarqa. Its responsibilities are further detailed in chapter 9 below.

**LEG.4.3:** Ensure the preparation of the MTS and of the SAP by periodically convening the Joint Committee of technical experts. The Committee will be composed of MoTA and DoA's staff, as detailed below:

- From the DoA, it will include: the Site Manager (SM), the inspector of the regional Directorate in Zarqa, the Director of the SMD, the Director of the Conservation Directorate, the Director of the Excavations Directorate.
- From the MoTA, it will include: the Director of the Tourism Site Management Directorate (TSMD), the Director of the Projects Development Unit.

The Committee will be convened on a yearly basis by the DoA's SMD to prepare the SAP. Every five years the Committee will also develop the quinquennial MTS and revisions to this SMP as per evolving site needs. The SMD will act as the Secretariat to the Committee, and it will ensure that MoTA and DoA actively collaborate in the preparation and delivery of the MTS and SAP.

**LEG.5.1:** Ensure adoption of the SMP through its approval by the Director General of Antiquities and its endorsement by the Ministry of Tourism and Antiquities.

**LEG.5.2:** Ensure periodic revision of the SMP in conjunction with the preparation of the MTS. A first evaluation of the effectiveness of the SMP will be undertaken after one year from its entry into force, and necessary steps will be undertaken towards its adaptation as per emerging needs.

#### 8.2.4. Capacity building and training (actions under policy LEG.7)

**LEG.7.1:** Ensure that specialized and technical staff's capacities are constantly reinforced through appropriate trainings on issues directly related to their duties in Qusayr 'Amra.

**LEG.7.2:** Train guards on their duties and responsibilities and inform them on punitive actions in case of wrongdoing. Consider incentives in terms of salary benefits or in kind benefits for good performance.



**LEG.7.3:** Train guards and the tourism police on emergency issues, risk preparedness and site awareness.

**LEG.7.4:** In collaboration with the Civil Defence, provide training for the firefighters stationed in the nearest station for appropriate intervention at the site in case of an emergency.

### 8.3. CONSERVATION AND DOCUMENTATION

#### 8.3.1. Planning (actions under policies CON.1-2)

**CON.2.1:** Develop specific mid-term objectives concerning the conservation of each site in the archaeological area, and incorporate them as part of the MTS. On a yearly basis, identify actions to be implemented on the short term and include them in the SAP with accurate budget estimates. In consideration of the grave state of deterioration of the second *saqiya* and the *qasr*, their excavation, conservation and presentation should be prioritized.

#### 8.3.2. Coordination and supervision (actions under policies CON.3-5)

**CON.4.1:** Coordinate actions concerning the conservation of the natural environment with the Forestry Department, Ministry of Agriculture, or the RSCN. Mechanisms for this coordination will be created.

**CON.4.2:** Ensure that the natural ecosystem remains authentic and integer through ad hoc actions, including the elimination of the long berm situated at the edge of the plateau bordering Wadi al –Butum to the north, and restore the steppe surface.

**CON.4.3:** Coordinate with the Forestry Department at the Ministry of Agriculture an intervention to improve the health of the *butum* trees (*Pistacia atlantica*).

**CON.5.1:** Ensure that any development work in the area, including those planned by MoTA for tourism development purposes, are subjected to a previous impact assessment and are approved by the SMD and the Director General of Antiquities.

**CON.5.2:** Ensure that approved development works are monitored by DoA's archaeologists, or by technical experts from relevant stakeholders in case of works impacting the natural ecosystem.

#### 8.3.3. Conservation guidelines and immediate threat control (actions under policies CON.6-8)

**CON.6.1:** Establish conservation guidelines concerning interventions on each site and for identified threats and risks. Guidelines will recommend the minimum standards for intervention, including professional profiles required for the supervision of project implementation. They will also incorporate risk preparedness guidelines and protocols, which will be developed together with a risk matrix. Compilation of the guidelines will follow established standards and the authors will seek the opinion and advice of national and international experts. Provisions for site protection in case of war will also be mentioned, such as the display of the Blue Shield and other recommendations set forth in the Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954) and its two Operational Protocols (1954; 1999).

**CON.7.1:** Develop qualitative and quantitative studies and analyses to assess the impact of key emerging risks and threats and most appropriate impact reduction strategies, including visitor flow management, to serve as a background in the development of conservation guidelines.

**CON.7.2:** Ensure a solution to the problem of birds entering and nesting inside the main site.

**CON.7.3:** Tackle the issue of graffiti inside the main site by a combined action of better guarding (in this regard, see also paragraph 8.4 below), re-design of the barriers, and sign-posting. In the visitor



center, provide information on the damage caused by graffiti and vandalism, as a way to raise awareness on this threat and instruct on proper behavior.

- CON.7.4:** Consider light, temporary fencing/wiring of the other archaeological areas, including the *qasr*, the watchtower, the second *saqiya* and the “service” building in order to limit damage and vandalism to these sites.
- CON.7.5:** Provide carbon dioxide extinguishers on site, for immediate intervention in case of fire.
- CON.8.1:** As a key component to the guidelines, establish a standardized reporting format for conservation and documentation activities, and include instructions on minimum standards for photography and graphic documentation and archiving.

#### **8.3.4. Establishment of the Qusayr ‘Amra Documentation Centre (actions under policy CON.9)**

- CON.9.1:** Establish the Qusayr ‘Amra Documentation Centre (QADoC) at the DoA’s premises in Amman. The QADoC will contain copies of all documents on Qusayr ‘Amra, published and unpublished, already available at DoA’s documentation centre or made available by other institutions in the course of the years.
- CON.9.2:** Digitize all the available material in order to create an online repository, initially for internal use at DoA. The QADoC may also be made available online for easy use of international scholars and the undertaking of remote studies on the site. In this case, copyright issues for published material will have to be considered.
- CON.9.3:** Define rules for access to and use of QADoC by external scholars.

### **8.4. MAINTENANCE AND MONITORING**

#### **8.4.1. Planning and coordination (actions under policies MNT.1-2)**

- MNT.1.1:** Develop specific mid-term objectives concerning the maintenance of archaeological sites and tourism facilities, and incorporate them as part of the MTS. On a yearly basis, identify actions to be implemented on the short term and include them in the SAP with accurate budget estimates.
- MNT.2.1:** Coordinate monitoring activities with Ministry of Agriculture and other relevant stakeholders, such as the Royal Society for the Conservation of Nature (RSCN) for what concerns the state of conservation of the local ecosystem.
- MNT.2.2:** Coordinate with MoTA the maintenance of infrastructures and tourist facilities and ensure proper supervision of these activities, especially when they are carried out by external contractors.

#### **8.4.2. Guidelines, protocols and urgent actions (actions under policies MNT.3-4)**

- MNT.3.1:** Develop monitoring and maintenance guidelines and protocols for archaeological sites and tourism infrastructures, establishing a list of actions to be conducted at every monitoring exercise. These guidelines and protocols will be developed in close collaboration with conservation specialists working on specific projects on site.
- MNT.3.2:** Develop a standard form to facilitate monitoring and information recording, and enter the data collected in a dedicated database or spreadsheet. Interval of monitoring exercises will be decided by the SM in coordination with the SMD and ideally will never exceed four months, establishing a quarterly cycle.
- MNT.3.3:** Monitor the archaeological structures on a regular basis and as per established guidelines and protocols, under the supervision of the SM.

- MNT.3.4:** Coordinate with concerned stakeholders (e.g. Ministry of Agriculture, RSCN etc.) the development of guidelines for monitoring and maintenance of the ecosystem.
- MNT.3.5:** Replace wooden elements of *saqiya* with new ones.
- MNT.3.6:** Assess the conditions and eventually rebuild/provide maintenance to the berms and stone gabions in Wadi al-Butum.
- MNT.4.1:** Monitor hospitality services and tourist facilities on a regular basis and as per established guidelines and protocols, under the supervision of the SM.

#### 8.4.3. Visitors monitoring (actions under policy MNT.5)

- MNT.5.1:** Monitor tourist activities and behavior through guards and the tourist police, and under the close supervision of the SM.
- MNT.5.2:** Assign at least one permanent guard at the main building during opening hours. The number of guards should be increased as per site needs, and should account for two guards to be present on site at the same time and to alternate for effective coverage of day and night shifts.
- MNT.5.3:** Install a solar-powered Closed-circuit Television (CCTV) system inside the main building connected to the guards' room.
- MNT.5.4:** Install an alarm system (light and sound) linking the main building to the guards' room to alert them about unauthorized access, especially during closing hours.
- MNT.5.5:** Install signage alerting visitors of the presence of CCTV and alarm system, and defining strict rules of behavior.
- MNT.5.6:** Provide uniforms for the site guards to foster awareness on their role and function on the site.

### 8.5. VISITATION AND INTERPRETATION

#### 8.5.1. Site promotion (actions under policy TOU.1)

- TOU.1.1:** Provide technical assistance to MoTA, the Jordan Tourism Board (JTB) and other relevant stakeholders to develop promotional material and to promote the site through the development of alternative tourism actions.
- TOU.1.2:** Ensure the celebration of the International Day of Monuments and Sites, on April 18.
- TOU.1.3:** Organize trainings for tour guides, tour operators and the media to ensure the correct dissemination and promotion of the site's cultural and natural values.

#### 8.5.2. Planning (actions under policies TOU.2-3)

- TOU.2.1:** Within the MTS and the SAP, develop tourism management strategies and actions to address the issues of visitation and interpretation at the site, which will also define plans for improvement of the tourist facilities on site (in this regard see also paragraph 8.7). The interpretation strategy will seek a holistic view on the area and embed all its values.
- TOU.2.2:** Consult archaeologists and conservation specialists to develop the interpretation of the site.
- TOU.3.1:** Ensure that tourism development interventions are preceded by environmental impact assessments in order to minimize their impact on the cultural and natural values of the site.

#### 8.5.3. Implementing actions (actions under policies TOU.4-5)

- TOU.4.1:** Review the present display at the visitor center in light of new discoveries and with a holistic approach to the cultural and natural values of the site, including through the active consultation of archaeologists, conservation and interpretation experts.



- TOU.4.2:** Periodically conduct visitor surveys in order to verify visitor satisfaction and use the survey findings to correct tourism strategies and actions.
- TOU.4.3:** Adapt the present display to current tourists' demand and expectations as expressed by tourist surveys, particularly by introducing interactive displays and multimedia communication (e.g. virtual tours). The displays will possibly use some of the high quality, high definition photographic and graphic documentation collected on the site.
- TOU.5.1:** Based on the qualitative and quantitative studies developed as part of the conservation actions, evaluate the opportunity to establish visitors management guidelines to reduce tourism impact on the conservation of the site.

## 8.6. RESEARCH AND EXCAVATION

### 8.6.1. Planning and coordination (actions under policies REX.1-2)

- REX.1.1:** Develop a research strategy in consultation with national and international research centers and other stakeholders. The strategy will be incorporated in the MTS and its annual implementation will be presented in the SAP with related budget estimates.
- REX.2.1:** Ensure that all research and excavations requests are in line with the above-mentioned strategy and that their authorization be approved by the Directorate of Excavations and validated by the Director General of Antiquities, as per Regulations for Archaeological Excavations and Surveys in Jordan (2013).
- REX.2.2:** Ensure that excavations be undertaken under the monitoring of the SMU.

### 8.6.2. Excavation, documentation, research (actions under policies REX.3-5)

- REX.3.1:** Invite research centers and universities to apply for excavation and research permits at the site, in accordance with identified research priorities.
- REX.3.2:** Prepare and provide excavation guidelines and reporting format to excavation teams working in the site perimeter, based on Antiquities Law 21/1988 and the Regulations for Archaeological Excavations and Surveys in Jordan (2013). The guidelines will include precise instructions on how to report and document the activities conducted on site. Excavations will have to include a component of site stabilization and conservation.
- REX.3.3:** Foster remote sensing surveys in the perimeter of the archaeological area in order to identify buried features and establish a complete archaeological map of the area.
- REX.3.4:** Complete the archaeological survey of the site, expanding it to the buffer zone and beyond, in order to ascertain the archaeological potential of the site and its surrounding areas.
- REX.3.5:** Establish GIS maps for Qusayr 'Amra to manage the archaeological and conservation intervention. All data collected should be linked so that it can interface it with existing data sets such as the ISCR's Qusayr 'Amra documentation system and other data that will be collected over time by the DoA and others working at the site.
- REX.3.6:** Establish a system for inventorying and monitoring the movements of objects from the site to storage facilities and museums, and for those on loan to national or foreign institutions.
- REX.4.1:** Organize every year a Qusayr 'Amra study day, where research concerning the site (archaeological, historical, epigraphic, etc) can be presented.
- REX.5.1:** Archive published and unpublished materials at the Qusayr 'Amra's Documentation Centre (QADoC).



## 8.7. FACILITIES, SERVICES AND INFRASTRUCTURES

### 8.7.1. Planning and coordination (actions under policies FSI.1-4)

- FSI.2.1:** Identify priorities and actions for site development, to be integrated in the MTS and in the SAP, based on consultations with other stakeholders (e.g. tour operators, guides' associations etc.) and on the results of the tourist surveys conducted in 2012 and 2013.
- FSI.3.1:** Minor modifications to the existing situation will require projects prepared by MoTA's technical offices and approved by the DG upon recommendation by the SMD. They will be implemented under direct supervision of the SM.
- FSI.4.1:** Ensure that development works are implemented by specialized contractors under the monitoring of DoA's experienced archaeologists and/or environmentalists for salvage/rescue operations throughout every phase of the works.

### 8.7.2. Hospitality and facilities improvement (actions under policies FSI.5-6)

- FSI.5.1:** Arrange a souvenir shop within the current premises of the visitor centre. The shop will sell books related to the archaeology and history of Jordan, with particular emphasis on the Desert Castles and the archaeology of the Azraq area. It will also sell souvenirs produced locally by the numerous cooperative initiatives of the Muwaqqar/Azraq area (see also paragraphs 8.8 and 8.9 below). The shop will be managed by a skilled local professional or by a cooperative or group of cooperatives operating in the area.
- FSI.5.2:** Assess the opportunity and means to reinforce the existing refreshment service available at the entrance of the site.
- FSI.5.3:** Provide adequate disabled-friendly access to the services
- FSI.5.4:** Improve the outdoor areas of the visitor center with the addition or improvement of the shaded areas.
- FSI.5.5:** Add or dedicate a space outdoor (e.g. between visitor center and parking) for classes visiting the site. The space will be provided with benches and tables and should be sheltered by a canopy.
- FSI.5.6:** Prepare an assessment on the feasibility/opportunity to establish overnight camps outside of the site's buffer zone and managed by the local community.
- FSI.5.7:** Organize a competition for the design, planning and development of major works in order to identify the best architectural idea to be carried forward. The Committee deciding on the winning concept will be formed by the MoTA and the DoA and will include the members of the Joint Committee of technical experts (see above, paragraph 8.2.3).
- FSI.6.1:** Keep new interventions to a minimum, using the existing spaces for the new services required.
- FSI.6.2:** Improve the parking area by marking car and bus spaces on the ground and by clearly marking areas reserved for pedestrian use
- FSI.6.3:** Improve the lavatory/toilet facilities by ensuring regular and accurate cleaning and by adding seated toilets. At a later time, sinks, faucets and décor should also be changed to improve the standard of the lavatories.
- FSI.6.4:** Avoid landscaping, introducing plants and other elements that are not part of the present environment.
- FSI.6.5:** Re-design the path and its edges leading to the main site as well as the gazebo at the observation point.
- FSI.6.6:** Eliminate old or obsolete signs on and near the site, and replace with consistent, unobtrusive signage.



## **8.8. PUBLIC AWARENESS, EDUCATION AND COMMUNITY PARTICIPATION**

### **8.8.1. Planning and coordination (actions under policies EDU. 1-3)**

- EDU.2.1:** Prepare medium and short term education and awareness strategies and actions equally targeting the adults and the youth, to be incorporated in the MTS and SAP.
- EDU.3.1:** Encourage local non-governmental organizations (NGOs) and cooperatives to coordinate their activities with the site's SMU, in order to develop a program of site-related activities that can eventually be formalized in events to be programmed yearly.

### **8.8.2. Community involvement (actions under policy EDU.4-5)**

- EDU.4.1:** Involve local communities as well as school and university students in educational and community activities. These may take the form of lectures, provided in schools or on site by the SMU, as well as of "Amra days" where students are invited to help the SMU to clean the site, help with monitoring activities, conduct tourist surveys and interviews etc.
- EDU.5.1:** Conduct periodic meetings with the communities in Muwaqqar and Azraq to inform them on issues concerning the site and on economic opportunities arising in the context of site development.

## **8.9. INVESTMENTS, MARKETING AND FUNDING**

### **8.9.1. Planning (actions under policies FND.1-2)**

- FND.2.1:** Develop budget estimates and yearly budget plan for all activities concerning the site's conservation and development, to be incorporated respectively in the MTS and in the SAP.
- FND.2.2:** Coordinate budget allocations between MoTA and DoA, as per respective competencies and responsibilities.

### **8.9.2. Fundraising, cooperation, and national/international projects (actions under policy FND.3)**

- FND.3.1:** If required, conduct fundraising for specific projects. Project proposals will be developed by the competent Department or Unit at MoTA or DoA, and will be coordinated by the SMD.
- FND.3.2:** Seek the participation of national and international NGOs and Universities in joint projects in the fields of heritage conservation and research, as well as capacity building and any other activity that may help achieve the recommendations of this SMP and other specific plans prepared for the site.

### **8.9.3. Support for private and community-based initiatives (actions under policy FND.4)**

- FND.4.1:** Ensure constant liaison with the local community and other projects in the area, and foster the development of assessments, surveys, studies and meetings in order to explore opportunities for the culture-based economic development of the area.
- FND.4.2:** Develop a Qusayr 'Amra logo and official "brand" to be associated to authorized local handicraft products. The logo will certify the product as having been locally produced.
- FND.4.3:** Liaise with other economic development projects conducted in the area by other organizations in order to explore partnership opportunities.
- FND.4.4:** Involve the JTB and other concerned stakeholders in the marketing of the site to attract an increased number of tourists in the badiya region.

## CHAPTER 9 – PLAN IMPLEMENTATION

Implementing the plan requires coordination among all main actors and the establishment of clear decision-making and monitoring mechanisms, assigning responsibilities, and defining clear duties and milestones. This chapter describes such requirements and outlines an implementation process for each of the strategic axes and respective actions identified in chapter 8.

### 9.1. MECHANISMS AND RESPONSIBILITIES

#### 9.1.1. Plan approval and implementation mechanism

The completed Site Management Plan (SMP) will be approved by the Director General of Antiquities and will be sent to the Minister of Tourism and Antiquities for formal approval. This approval will legally bind the Ministry of Tourism and Antiquities (MoTA) and the Department of Antiquities (DoA) to the implementation of the SMP.

Two key institutional bodies will be in charge of the implementation of the SMP:

- a. The DoA, particularly through the Director General of Antiquities, the Sites Management Directorate (SMD) with its World Heritage Sites Section (WHSS), and the Site Management Unit (SMU), replaced in an earlier phase by the Site Manager (SM) only;
- b. The MoTA, particularly through the Tourism Site Management Directorate (TSMD).

A Joint Committee of technical experts from MoTA and the DoA, as defined in chapter 8 above, will be convened yearly to adopt the Site Annual Plan (SAP) and every five years to adopt the site Medium Term Strategy (MTS). The SAP will identify priority actions and existing budget for yearly interventions on site, and will be consistent with the vision, aims, policies and actions identified through this SMP and the MTS. The SAP will be implemented on site by the SMU under the coordination of the SMD and its WHSS.

#### 9.1.2. Ministry of Tourism and Antiquities

The MoTA will retain its responsibilities concerning the management of the visitor center and other tourist activities on site, but any new activity and site development plan or action will have to be developed within the framework of the MTS and of the SAP, in coordination with the SMD and the SMU and upon validation by the Director General of Antiquities.

##### *The Minister of Tourism and Antiquities*

In relation to Qusayr ‘Amra World Heritage Site (WHS) the Minister of Tourism and Antiquities will have the following responsibilities:

1. Endorse this SMP upon recommendation of the Director General of Antiquities;
2. Periodically endorses the MTS and the SAP with related budget, respectively every five years and on a yearly basis.

##### *The Tourism Site Management Directorate*

In relation to Qusayr ‘Amra archaeological area, the TSMD will be part of the Joint Committee of technical



experts in charge of preparing Qusayr ‘Amra’s MTS and SAP. Furthermore the TSMD, with its Desert Castles Visitor Centers Section, will have the following responsibilities:

1. Coordinate with DoA’s SMD and SMU all actions pertaining to the management of the site as per the recommendations of this management plan, and particularly:
  - a. All actions related to the maintenance and improvement of infrastructures (e.g. parking area, paths, visitor center, resting areas, toilets, signage, etc.);
  - b. All actions related to the construction or development of new facilities (e.g. bookshop, cafeteria, etc.);
  - c. All actions related to tourism development.
2. MoTA’s Agreement and Tourist Investment Section and the Product Development Section will consult with SMD and SMU for the development of any initiative concerning the site.
3. Once finalized, projects prepared by the TSMD will be submitted to the SMD for assessment and formal approval by the Director General of Antiquities.

### 9.1.3. Department of Antiquities

The DoA is the agency responsible for the conservation, excavation, research and presentation of the nation’s cultural properties. It is responsible towards UNESCO to maintain the Outstanding Universal values of its World Heritage sites. By law, the DoA is responsible for the conservation, presentation, management and enhancement of national antiquities, as further detailed in chapter 4. With specific reference to Qusayr ‘Amra, the DoA will be responsible for the approval, coordination and implementation of the site’s conservation, investigation, presentation, management and development, and will furthermore ensure close monitoring of any modern development works occurring on site to minimize their impact on the cultural values and assets of the area. The DoA will therefore ensure the preparation of the site’s global strategy and action plan, embedded in the MTS and in the SAP, as repeatedly detailed above and in previous chapters 7 and 8.

#### *The Director General of Antiquities*

The Director General of Antiquities will approve Qusayr ‘Amra’s SMP, MTS and SAP and will forward them to the Minister of Tourism and Antiquities for endorsement. Furthermore, the Director General will have the following duties and responsibilities:

1. Receive and approve annual reports on the management of the site and forward them to the joint Committee of technical experts;
2. Receive and validate project proposals related to infrastructure and tourism development, upon recommendation of the SMD.

#### *The Site Management Directorate*

The SMD will be in charge of the planning and coordination of all activities concerning the management of archaeological site and WHS in Jordan, through its ad-hoc Sections: the WHSS, the Archaeological Sites Section and the Interpretation and Development Section. SMD’s responsibilities will include the following tasks:

1. Development of strategic plans for the conservation and management of archaeological sites
2. Preparation of site management plans
3. Preparation of Medium Term Strategies and Site Annual Plans
4. Development of guidelines for site monitoring, maintenance, and conservation



5. Development of training and capacity building courses for DoA staff in site management issues.
6. Establishment of coordinating mechanisms with other DoA and MoTA Directorates
7. Participation with other Directorates in the preparation of World Heritage Nomination files, and assist other Directorates in providing reports to UNESCO concerning the state of conservation of WH properties
8. Organization of meetings with stakeholders and local communities.

With specific reference to Qusayr ‘Amra, the responsibilities of the SMD and its WHSS will include:

1. Assessing ordinary and extraordinary interventions on site and submit them for approval to the DoA DG;
2. Preparation of the site’s Medium Term Strategy (MTS) and Site Annual Plan (SAP), in coordination with the SMU and with MoTA’s Tourism Site Management Directorate (TSMD) for long and shortterm strategic coordination of actions on site;
3. Coordination of SAP annual implementation;
4. Development of guidelines as required by the Site Management Plan (SMP), together with the advice of the Site Manager, of other competent Directorates at DoA and of other relevant stakeholders;
5. Establishment and implementation of information-sharing mechanism and tools, to ensure close coordination with MoTA and other relevant stakeholders;
6. Organization of meetings with relevant stakeholders to ensure continuing protection of the site.

The SMD will also be part of the Joint Committee of technical experts and it will act as its Secretariat, thus ensuring that the components of the body fruitfully collaborate and timely deliver the MTS and the SAP. The SMD will be composed as presented in paragraph 8.2.3 and will report to the Director General of Antiquities.

#### *The Site Management Unit and the Site Manager*

The SMU will be responsible for the implementation of actions in Qusayr ‘Amra, as identified by the Site Management Directorate (SMD) through the yearly Site Annual Plan (SAP). Its functions will include:

1. Implementing and reporting on the activities established in the SAP;
2. Monitoring development at and near the site and report threats/risks to the SMD and to the regional Directorate in Zarqa;
3. Collaborating with experts and the SMD in the compilation of guidelines;
4. Provide advice to the SMD in the compilation of the SAP and the MTS;
5. Organizing meetings and activities with the local community;
6. Overseeing the Visitor Centre’s management and development, and report to competent bodies regarding emerging issues;
7. Collaborate with the SMD and MoTA’s TSMD to improve the tourist services and the presentation of the site.

The SMU will be based on the field in Qusayr ‘Amra and it will be composed as detailed in above paragraph 8.2.3. At an administrative level, the SMU will report to the DoA’s regional Directorate in Zarqa. At a technical level, the SMU will report to the SMD and will implement the technical instructions provided by this Directorate. While awaiting for the full establishment of the SMU, the Site Manager will be in charge for ad-interim follow-up and coordination on the above tasks.

## **9.2. ACTION PROGRAM**

A plan of the actions required for the implementation of this SMP is presented in the form of a table at the end of this chapter 9. The actions are charted by policies and aims, and they are classified based on the time and priority of implementation. In this regard, we distinguish between short, medium and long term actions, respectively for implementation within one or two years (short term), three to five years (medium term) and



over five years (long term). A distinction is also made between high, medium and low priority actions.

### **9.3. PLAN MONITORING AND PERIODIC REVIEW**

The plan should ideally be reviewed and updated every five years. The previous pages clearly show that most of the actions identified should be completed by the end of the fifth year. A first evaluation will be undertaken after one year from the approval and endorsement of the SMP, and modifications will be applied as per relevant emerging needs.

The execution of the actions will be monitored by the SMU and coordinated by the SMD, who will also be in charge of the organization of the periodic review.

The review will consist of:

1. Organization of new condition assessments
2. Evaluation of the impact of actions undertaken at the site
3. Assessing possible changes impacting the Outstanding Universal Value of the site
4. Drafting of recommendations concerning corrective or new actions to be undertaken to improve conservation and public access.
5. Organization of stakeholders meetings to discuss draft recommendations
6. Finalize document and present to the Joint MoTA-DoA committee for adoption.

## ACTION PLAN FOR THE IMPLEMENTATION OF THE SITE MANAGEMENT PLAN

AIM	STRATEGIC AXIS	POLICY	ACTION		RESPONSIBLE BODY	TIMEFRAME			PRIORITY	
			No.	Description		Short (yr 1-2)	Medium (yr 3-5)	Long (yr 5+)		
Appropriate Use (USE)	Guidelines and implementation (ref. par. 8.1.1)	USE.1	--	--	DoA, MoTA				High	
		USE.2	--	--	DoA, MoTA				High	
		USE.3	USE.3.1.	Develop guidelines	SMD, SMU				High	
	Legal and institutional framework (LEG)	Definition and enforcement of legal provisions and boundaries (ref. par. 8.2.1)	LEG.1	LEG.1.1.	Registration of boundaries	SMD				High
				LEG.1.2.	Mark the boundaries	SMU				High
				LEG.1.3.	Monitor, review limits and regulations	SMD				High
				LEG.1.4.	Ensure enforcement of penalties for boundaries infringement	SMD				High
		Definition of responsibilities on the site (ref. par. 8.2.2)	LEG.2	LEG.1.5.	Temporary fencing of other archaeological sites	SMU, DoA				High
				LEG.2.1.	Promote and foster awareness on Law 21/1988 particularly on the destruction of antiquities	SMD				High
				LEG.2.2.	Promote and enforce DoA's authority	MoTA, DoA				High
		Configuration of the management system and of legal obligations (ref. par. 8.2.3)	LEG.3	LEG.3.1.	Develop guidelines on responsibilities and competences between MoTA and DoA	MoTA, DoA				High
			LEG.4	LEG.4.1.	Reinforce WHSS within the SMD and define their tasks and responsibilities	DoA				High
				LEG.4.2.	Set up SMU and define its tasks and responsibilities	DoA				High
				LEG.4.3.	Establish Committee and produce MTS and SAP	MoTA, DoA				High
Capacity building and training (ref. par. 8.2.4)	LEG.5	LEG.5.1.	Ensure adoption of the SMP					High		
		LEG.5.2.	Ensure periodic review of the SMP, the first after one year from its entry into force.					High		
	LEG.6	--	--	SMD, TSMD				High		
	LEG.7	LEG.7.1.	Capacity building of staff						High	
		LEG.7.2.	Train guards on their duties and responsibilities	DoA, SMD					High	
		LEG.7.3.	Train guards and tourism police in emergency and risk preparedness	DoA, SMD					High	
		LEG.7.4.	Train firefighters	SMU					High	
Conservation and documentation (CON)	Planning (ref. par. 8.3.1)	CON.1	--	--	SMD, SMU				High	
		CON.2	CON.2.1	Develop mid term objectives and short term actions to incorporate in the MTS and SAP	SMD, SMU				High	
	Coordination and supervision (ref. par. 8.3.2)	CON.3	--	--	SMD				High	
		CON.4	CON.4.1	Coordinate environmental conservation	SMU				High	
			CON.4.2	Eliminate berm north of Wadi al-Butum and restore steppe surface	SMU				High	
	Conservation guidelines and immediate threat control (ref. par. 8.3.3)	CON.5	CON.4.3.	Promote healing of <i>butum</i> trees	SMD, SMU				High	
			CON.5.1	Coordinate stakeholders on tourism development	SMD, TSMD				High	
			CON.5.2	Monitor development works	SMU, SMD				High	
			CON.6.1	Establish conservation guidelines and risk matrix	SMD, SMU				High	
	Establishment of a Qusayr 'Amra Documentation Centre (ref. par. 8.3.4)	CON.6	CON.6.1	Develop threats/risks assessment studies	SMD, SMU				High	
		CON.7	CON.7.1	Solve bird problem	SMU				High	
			CON.7.2	Address graffiti problem	SMU				High	
			CON.7.3	Consider temporary fencing	SMU, SMD				High	
		CON.7.4	Provide fire extinguishers	DoA				High		
	CON.8	CON.8.1	Establish standardized reporting format	SMD, SMU				High		
	CON.9	CON.9.1	Formally establish QADoC	DoA				High		
		CON.9.2	Digitize material	DoA, SMU				High		
		CON.9.3	Define access and use rules and terms	DoA				High		

SECTION III – SITE MANAGEMENT PLANNING

AIM	STRATEGIC AXIS	POLICY	ACTION		RESPONSIBLE BODY	TIMEFRAME			PRIORITY	
			No.	Description		Short (yr 1-2)	Medium (yr 3-5)	Long (yr 5+)		
Maintenance and monitoring (MINT)	Planning and coordination (ref. par. 8.4.1)	MNT.1	MNT.1.1	Develop mid term objectives and short term actions to incorporate in the MTS and SAP	SMD, SMU, MoTA				High	
			MNT.2.1	Coordinate monitoring of ecosystem	SMU				Medium	
		MNT.2	MNT.2.2	Coordinate maintenance of infrastructures	SMU, TSMD				Low	
			MNT.3.1	Establish monitoring guidelines and protocols	SMD and SMU				Medium	
	Guidelines, protocols and urgent actions (ref. par. 8.4.2)	MNT.3	MNT.3.2	Develop monitoring/maintenance forms	SMU				High	
			MNT.3.3	Ensure regular monitoring of archaeological structures	SMU				High	
		MNT.4	MNT.3.4	Coordinate the development of guidelines and protocols for the monitoring of ecosystem	SM				Medium	
			MNT.5.1	Monitor tourists	SMU				High	
	Visitation and interpretation (TOU)	Visitors monitoring (ref. par. 8.4.3)	MNT.4	MNT.3.5	Restore wooden elements of <i>sajiza</i>	SMU				High
				MNT.3.6	Maintain stone gabions and berms	SMU				High
			MNT.5	MNT.4.1	Monitor hospitality services and tourist facilities	SMD, TSMD				High
				MNT.5.2	Assign permanent guard at the main building during opening hours, increase guard numbers, establish shifts	SMU				High
			MNT.5.6	MNT.5.3	Install CCTV	SMU				Medium
				MNT.5.4	Install alarm system	SMU				High
MNT.5.5		Install signage		SMU				Medium		
MNT.5.6		Provide uniforms		DoA				Medium		
Site promotion (ref. par. 8.5.1)		TOU.1	TOU.1.1	Provide technical assistance to key stakeholders for tourism promotion	SMU, SMD, TSMD				High	
			TOU.1.2	Ensure celebration of April 18, the International Day of Monuments and Sites	SMU, SMD, TSMD				Medium	
Planning (ref. par. 8.5.2)		TOU.2	TOU.1.3	Organize trainings for tour guides and other concerned stakeholders	SMD, SMU				Medium	
			TOU.2.1	Develop mid term objectives and short term actions to incorporate in the MTS and SAP	SMU, SMD, TSMD				High	
		TOU.3	TOU.2.2	Seek expert advice for site interpretation	SMU, SMD, TSMD				Medium	
			TOU.3.1	Coordinate development with cultural and environmental impact assessments	SMU, SMD, TSMD				High	
Implementing actions (ref. par. 8.5.3)	TOU.4	TOU.4.1	Review present display at visitor center	SMU, SMD, TSMD				Medium		
		TOU.4.2	Conduct periodic visitor surveys	SMU, SMD, TSMD				High		
	TOU.5	TOU.4.3	Design and develop multimedia content	SMU				Medium		
		TOU.5.1	Establish visitors management guidelines	SMD, TSMD				Medium		
Research and excavation (REX)	Planning and coordination (ref. par. 8.6.1)	REX.1	REX.1.1	Develop mid term objectives and short term actions to incorporate in the MTS and SAP	SMD, SMU				Medium	
			REX.2.1	Approve excavations and ensure consistency between proposals and MTS	DoA, SMD				High	
	Excavation, documentation, research (ref. par. 8.6.2)	REX.2	REX.2.2	Monitor excavation projects	SMU				High	
			REX.3.1	Coordinate new projects with research centres and universities	SMD, SMU				High	
		REX.3	REX.3.2	Produce excavation and reporting guidelines	SMD, SMU				High	
			REX.3.3	Conduct remote sensing	SMU				High	



AIM	STRATEGIC AXIS	POLICY	ACTION		RESPONSIBLE BODY	TIMEFRAME			PRIORITY	
			No.	Description		Short (yr 1-2)	Medium (yr 3-5)	Long (yr 5+)		
Facilities, services and infrastructures (FSI)	Planning and coordination (ref. par. 8.7.1)	REX.4	REX.3.4	Complete the archaeological survey of site and buffer zone	SMU				High	
			REX.3.5	Develop a site GIS	SMU, SMD				High	
			REX.3.6	Establish a system for the inventory and movement of excavated objects	SMU					Medium
			REX.4.1	Ensure the periodic organization of aQusayr 'Amra study day	SMU					Low
			REX.5.1	Archive material at QaDoC	SMU					Low
			FSI.1	--	SMD, TSMD					High
			FSI.2.1	Develop mid term objectives and short term actions to incorporate in the MTS and SAP	SMD, SMU					High
			FSI.3.1	Coordinate with MoTA for minor modifications	SMU, SMD, TSMD					Medium
			FSI.4.1	Ensure that development works are implemented by specialized contractors and under archaeological/environmental monitoring	SMD					High
			FSI.5.1	Set up a souvenir shop	TSMD					High
Hospitality and facilities improvement (ref. par. 8.7.2)	FSI.5	FSI.5.2	FSI.5.2	Assess whether to reinforce refreshment service	TSMD				High	
			FSI.5.3	Improve access for people with disabilities	TSMD				High	
			FSI.5.4	Improve shaded areas	TSMD				High	
			FSI.5.5	Provide space for young visitors	TSMD				High	
			FSI.5.6	Assess opportunity of overnight camps	SMD, TSMD				High	
			FSI.5.7	Organize architecture competition for major modifications	MoTA, DoA					Medium
			FSI.6.1	Ensure interventions are kept to a minimum	SMU, TSMD					High
			FSI.6.2	Improve parking area	SMU, TSMD					High
			FSI.6.3	Improve lavatories	SMU, TSMD					High
			FSI.6.4	Avoid inappropriate landscaping	SMU, TSMD					High
Public awareness, education and community participation (EDU)	Planning and coordination (ref. par. 8.8.1)	EDU.1	EDU.1	Replace old signage with new, unobtrusive one	SMU, TSMD				High	
			EDU.2.1	Develop mid term objectives and short term actions to incorporate in the MTS and SAP	SMD, TSMD				High	
			EDU.3.1	Coordinate with NGOs for students	SMU					High
			EDU.4.1	Organize educational activities, including 'Amra days	SMU					High
			EDU.5.1	Organize regular community meetings	SMU					High
			FND.1	--	DoA, MoTA					High
			FND.2.1	Develop mid term budget estimates and yearly budget plan to incorporate in the MTS and SAP	SMU, TSMD					High
			FND.2.2	Coordinate MoTA and DoA's budget allocations	SMD, SMU, TSMD					High
			FND.3.1	Conduct projects fundraising	TSMD, SMD					High
			FND.3.2	Establish collaborations with national and international organizations and projects	SMD					High
Investments, marketing and funding (FND)	Fundraising, cooperation, and national/international projects (ref. par. 8.9.2)	FND.4	FND.4.1	Organize stakeholders meetings	SMD, SMU				High	
			FND.4.2	Develop logo and brand	SMD, SMU, MoTA				High	
			FND.4.3	Liaise with other local development projects	SMU				High	
			FND.4.4	Collaborate with key stakeholders in the site marketing and promotion	SMD, TSMD				High	

## BIBLIOGRAPHY

- Aga-Oglu, M. 1954. "Remarks on the Character of Islamic Art". *The Art Bulletin* 36, 3: 175-202.
- Aigner, H. 2000. "Athletic images in the Umayyad Palace of Qasr 'Amra in Jordan: examples of body culture or Byzantine representation in early Islam?". *The International Journal of the History of Sport* 17, 1: 159-164.
- Alhasanat, M. B., Kabir, S. and Wan Hussin, W. M. A. 2010. "Spatial analysis of a historical phenomenon: using GIS to demonstrate the strategic placement of Umayyad desert palaces". *GeoJournal* 2010: 1-17.
- Ali, N. 2006. "Qusayr 'Amra, la peinture du personnage trônant sur l'eau: aspects pratiques de la fabrication d'une image". *Annales islamologiques* 40: 107-137, 281-282.
- Al-Khatib, M. A. 2010. Qusair Amra. *Restoration and Conservation Project*. Unpublished report.
- Al-Khatib, M. A. and Shhaltoug, A. 2011. *Qusayr Amra. Conservation and Restoration Project*. Unpublished report.
- Al-Kheder, S., Al-Shawabkeh, Y. and Haala, N. 2009. "Developing a documentation system for desert palaces in Jordan using 3D laser scanning and digital photogrammetry". *Journal of Archaeological Science* 36: 537-546.
- Almagro Gorbea, A. and Almagro Basch, M. 1974. *Report on the works realized (sic) by the Spanish Archeological Commission in Jordan during all the month of November of 1974*. Unpublished report.
- Almagro, A. 1981. *Tres monumentos Islámicos restaurados por España en el mundo árabe*. Madrid: Instituto de España.
- Almagro, A. 1995. "Remarks on building techniques during Umayyad times". *Studies in History and Archaeology of Jordan (SHAJ)* 5: 271-275.
- Almagro, M., Caballero, L., Zozaya, J. and Almagro, A. 1975 (first edition). *Qusayr Amra : residencia y baños omeyas en el desierto de Jordania*. Madrid: Instituto Hispano-Árabe de Cultura.
- Almagro, M., Caballero, L., Zozaya, J. and Almagro, A. 2002 (second edition). *Qusayr Amra : residencia y baños omeyas en el desierto de Jordania*. Granada: Fundación El Legado Andalusi.
- Al-Shawabkeh, Y., Haala, N. and Fritsch, D. 2010. "A new true ortho-photo methodology for complex archaeological application". *Archaeometry* 52, 3: 517-530.
- Arias, I. 2009. "Review of The paintings of Qusayr 'Amra an Umayyad bath in the Jordanian badiya by G. Bisheh and C. Vibert-Guigue". *Archivo Espanol de Arqueologia* 82: 309-310.
- Baer, E. 1999. "The Human Figure in Early Islamic Art: Some Preliminary Remarks". In *Muqarnas XVI: An Annual on the Visual Culture of the Islamic World*, edited by G. Necipoglu, 32-41. Leiden: Brill.
- Baker, P. 1980. "The frescoes of Amra". *Saudi Aramco World*, July/August 1980: 22-25.
- Barbet, A. and Vibert-Guigue, C. 1988 and 1994. *Les peintures des necropolis romaines d'Abila et du Nord de la Jordanie, Bibliothèque Archéologique et Historique* 130. Paris: Paul Geuthner.

- Barret, M. 1993. *Quseir 'Amra, Examen de l'état de conservation des enduits de la coupole du caldarium*. Unpublished report.
- Becker, C.H. 1907. "Das Wiener Qusayr 'Amra-Werk". *Zeitschrift für Assyriologie* 20: 355-379.
- Beer, A. 1932. "The Astronomical Significance of the Zodiac of Qusayr 'Amra". In *Early Muslim Architecture*, edited by K. A. C. Creswell. Oxford: Clarendon Press, 296-303.
- Beer, A. 1967. "Astronomical Dating of Works of Art". *Vistas in Astronomy* 9: 177-187.
- Betts, A.V.G. 2001. "Graffiti from Qusayr 'Amra: A note on dating of Arabian rock carvings", *Arabian Archaeology and Epigraphy* 12, 1: 96-102.
- Bianchin, S., Casellato, U., Favaro, M. and Vigato, P. A. 2007. "Painting technique and state of conservation of wall paintings at Qusayr 'Amra, Amman – Jordan". *Journal of Cultural Heritage* 8: 289-293.
- Bianchin, S., Casellato, U., Favaro, M., Vigato, P. A. and Botticelli, G. 2005. "Stato di conservazione e progetto di restauro degli affreschi di Qusayr Amra, Amman, Giordania", *Sulle pitture murali: riflessioni, conoscenze, interventi. Atti del convegno di studi, Bressanone 12-15 luglio 2005*, edited by G. Biscontin and G. Driussi, 273-281. Venezia: Arcadia Ricerche.
- Bisheh, G. 1987. "Les fresques du palais omeyyade d'Amra". *Dossier Histoire et Archéologie* 118: 70-73.
- Bisheh, G. 2000. "The Umayyads: The rise of Islamic Art", *Discover Islamic Art – Museum With No Frontiers*. Accessed December 10, 2013. [www.discoverislamicart.org](http://www.discoverislamicart.org)
- Bisheh, G. 2010. "Fresco panel: 'The Family of Kings'". *Discover Islamic Art – Museum With No Frontiers*. Accessed December 10, 2013. [www.discoverislamicart.org](http://www.discoverislamicart.org)
- Bisheh, G. and Vibert-Guigue, C. 1991. *Qusayr Amra paving project*. Unpublished report.
- Bisheh, G. and Vibert-Guigue, C. 1997. "Les bains omeyyades de Qusayr 'Amra". *Le Monde de la Bible* 104: 59-61.
- Bisheh, G., Morin, T. and Vibert-Guigue, C. 1997. "Rapport d'activités à Qusayr 'Amra". *Annual of the Department of Antiquities of Jordan (ADAJ)* 41: 375-393.
- Blazquez, J. M. 1981. "Las pinturas helenísticas de Qusayr 'Amra (Jordania) y sus fuentes". *Archivo Español de Arqueología* 54, 143-144, 157-202.
- Blazquez, J. M. 1983. "La pintura helenística de Qusayr 'Amra, II". *Archivo Español de Arqueología* 56, 147-148, 169-196.
- Blazquez, J. M. 1998. *La herencia clásica en el Islam: Qusayr 'Amra y Quasrt al-Hayr al-Garbi*. Madrid: Real Academia de la Historia.
- Bowersock, G.W. 1998. "The rich harvest of Near Eastern Mosaics". *Journal of Roman Archaeology* 11: 693-699.
- Brentano, H. 1907. "Review: Kusahr 'Amra". *Deutsche Rundschau* 131 (June): 427-435.
- Brubaker, L. 2009. "Representation c. 800: Arab, Byzantine, Carolingian". *Transactions of the Royal Historical Society* 19: 37-55.

- Brunet, J. P., Nadal, R. and Vibert-Guigue, C. 1998. "The fresco of the Cupola of Qusayr 'Amra". *Centaurus* 40, 97-123.
- Burckhardt, L. L. 1824. *Johann Ludwig Burckhardt's Reisen in Syrien, Palästina und der Gegend des Berges Sinai: aus dem Englischen*. Weimar: Verlag des Landes-Industrie-Comptoirs.
- Caiozzo, A. 2003. *Images du ciel d'Orient au Moyen Âge, une histoire du zodiaque et de ses représentations dans les manuscrits du Proche-Orient musulman*. Paris: Presses de l'Université de Paris-Sorbonne.
- Clermont-Ganneau, C. 1902. "Review: A. Musil, Kusejr 'Amra und andere Schlösser östlich von Moab: Topographischer Reisebericht". *Journal des Savants*: 281-284.
- Cobb, P.M. 2009. "Review of Qusayr 'Amra. Art and the Umayyad elite in late antique Syria. By G. Fowden". *Journal of Near Eastern Studies* 68, 2: 156-157.
- Colomban, P., Calligaro, T., Vibert-Guigue, C. and Liem, N. Q. Edwards H.G.M., 2005. "Dorures des céramiques et tesselles anciennes: Technologies et accrochage". *Revue d'archéométrie* 29: 7-20.
- Compareti, M. 2011. "The State of Research on Sasanian Painting". *E-Sasanika* 13: 1-50.
- Conti, L., Guida, G., Talarico, F. and Vigliano, F. 2009. *Indagini preliminari sui dipinti di Qusayr Amra*. Unpublished report.
- Creswell, K. A. C. 1932. *Early Muslim architecture*. Oxford: Clarendon Press.
- Creswell, K. A. C. 1946. "The Lawfulness of Painting in Early Islam". *Ars Islamica* 11/12: 159-166.
- Creswell, K.A.C. 1958. *A Short Account of Early Muslim Architecture*. Harmondsworth: Penguin Book.
- Creswell, K. A. C. and Allan, J.W. 1989. *A short account of early Muslim architecture. Revised and supplemented by James W. Allan*. Aldershot: Scholar Press.
- Dalton, O.M. 1911. *Byzantine Art and Archaeology*. Oxford: Clarendon Press.
- Department of Antiquities of Jordan. 1974. *Quseir 'Amra. An Umayyad Castle*. Amman: Department of Antiquities.
- Department of Antiquities of Jordan. 1990. *Report on Qusayr 'Amra*. Unpublished report.
- Department of Antiquities of Jordan. 1994. *Regulations for Archaeological Excavations and Surveys in Jordan*. Amman: Department of Antiquities.
- Department of Antiquities of Jordan. 2000. *Periodic reporting exercise on the application of the World Heritage Convention in the Arab Region – Quseir 'Amra*. Unpublished material.
- Department of Antiquities of Jordan. 2001. *Report on Hammam as-Sarah, Qusair al-Hallabat, Qusair 'Amra, Qala' al-Azraq, Wadi al-Butum*. Unpublished report.
- Department of Antiquities of Jordan. 2008. *Proposal for conservation of Qusayr Amra wall paintings*. Unpublished report.
- Department of Antiquities of Jordan. 2009. *Report*. Unpublished report.
- Department of Antiquities of Jordan. 2011. *Plans and drawings of Qusayr Amra within the joint ISCR/*

*DoA/WMF project*. Unpublished report.

Department of Antiquities of Jordan. 2011. *Report on ISCR works at Qusayr Amra*. Unpublished report.

Department of Antiquities of Jordan. 2011. *Report on ISCR works at Qusayr Amra*. Unpublished report.

Department of Antiquities of Jordan. 2011. *Report. Qusayr Amra conservation project (from 2/4/2011 to 30/5/2011)*. Unpublished report.

Department of Antiquities of Jordan. 2011. *Report. Qusayr Amra conservation project (from 1/9/2011 to 30/10/2011)*. Unpublished report.

Department of Antiquities of Jordan. 2013. *Regulations for Archaeological Excavations and Surveys in Jordan. Amman*: Department of Antiquities.

Di Branco, M. 2007. "I sei principi di Qusayr 'Amrah fra Tardoantico, ellenismo e Islam". *Rendiconti dell'Accademia Nazionale dei Lincei* 18, 4: 597-620.

Draper, P. 2005. "Islam and the West: The Early Use of the Pointed Arch Revisited". *Architectural History* 48: 1-20.

Drayson, E. 2006. "Ways of Seeing: The First Medieval Islamic and Christian Depictions of Roderick, Last Visigothic King of Spain". *Al-Masaq* 18, 2: 115-128.

Ettinghausen, R. 1962. *La peinture arabe*. Lausanne: Skira.

Fares Drappeau, S. 2000. "RR. PP. A. Jaussen et R. Savignac - Mission archéologique en Arabie (Publication de la Société des fouilles archéologiques), 3 tomes [Tome I : De Jérusalem au Hedjaz Médaine-Saleh (mars-mai 1907), Paris, 1909 ; Tome II : El-'Ela, D'Hégra à Teima, Harrah de Tebouk, Paris, 1914 avec un Atlas (153 planches, cartes et plans) et un supplément au volume II : Les coutumes des Fuqarâ ; Tome III : Les châteaux arabes, Quseir 'Amra, Kharâneh et Tûba, Paris, 1922], Paris (P. Geuthner) - Le Caire (Institut Français d'Archéologie Orientale), 1997 (2ème édition)". *Revue des mondes musulmans et de la Méditerranée* 89-90: 325-330. <http://remmm.revues.org/2681>.

Farioli Campanati, R. 1992. "Decorazioni di origine tessile nel repertorio del mosaico pavimentale protobizantino del Vicino Oriente e le corrispondenze decorative parietali di Ravenna, Salonico, Costantinopoli e Qusayr Amra". In *XXXIX Corso di Cultura sull'Arte Ravennate e Bizantina, Ravenna*, 6-12 aprile 1992, 275-295. Ravenna: Edizioni del Girasole.

Ferroni, A. M. and Hendili, K. 2006. *Mission report on World Heritage Sites of Um er-Rasas and Qusayr Amra, Joint ICOMOS/WHC Reactive Monitoring Mission to Jordan, 17-27 November 2006*. Unpublished report.

Fowden, G. 1999. "Desert kites': ethnography, archaeology and art". In *The Roman and Byzantine Near East*, edited by J. H. Humphrey, *Journal of Roman Archaeology, Suppl. Series* 31: 107-136.

Fowden, G. 2004. "Late-antique Art in Syria and its Umayyad Evolutions". *Journal of Roman Archaeology* 17: 282-304.

Fowden, G. 2004. "Part I: Hellenism and the Umayyads". In *MEΛETHMATA 37, Studies on Hellenism, Christianity and the Umayyads*, edited by G. Fowden and E.K. Fowden. Athens: Research Centre for Greek and Roman Antiquity, 23-145.



- Fowden, G. 2004. "The Six Kings at Qu' ayr 'Amra". In *La Persia e Bisanzio, Atti dei convegni Lincei 201*: 263-273. Roma: Accademia nazionale dei Lincei.
- Fowden, G. 2004. *Qusayr 'Amra. Art and the Umayyad elite in late antique Syria*. Berkeley: University of California Press.
- Gatier, P. L. 1992. "Les inscriptions grecques d'époque islamique (VIIe-VIIIe siècles) en Syrie du Sud". In *La Syrie de Byzance à l'Islam*, edited by P. Canivet and J.P. Rey Coquais, 145-157. Damascus: IFEAD.
- Gawlikowski, M. 2009. "Review of The paintings of Qusayr 'Amra Umayyad bath in the Jordanian badiya by G. Bisheh and C. Vibert-Guigue". *Gnomon-Kritische Zeitschrift für die Gesamte Klassische Altertumwissenschaft*, 81, 3: 286-287.
- Genequand, D. 2002. "Une mosquée à Qusayr 'Amra". *Annual of the Department of Antiquities of Jordan (ADAJ)* 46: 583-589.
- Grabar, O. 1954. "The painting of the six kings at Qusayr 'Amrah". *Ars Orientalis* 1: 185-187.
- Grabar, O. 1954. *Ceremonial and art at the Umayyad court*. PhD diss., University of Princeton.
- Grabar, O. 1959. "The Umayyad Dome of the Rock in Jerusalem". *Ars Orientalis* 3: 33-62.
- Grabar, O. 1963. "The Islamic Dome, Some Considerations". *Journal of the Society of Architectural Historians* 22, 4: 191-198.
- Grabar, O. 1963. "Umayyad "Palace" and the Abbasid revolution". *Studia Islamica* 18: 5-18.
- Grabar, O. 1964. "Islamic Art and Byzantium". *Dumbarton Oaks Papers* 18: 67-88.
- Grabar, O. 1971. "Survivances classiques dans l'art de l'Islam". *Annales archéologiques arabes syriennes* 21: 371-380.
- Grabar, O. 1973. *The Formation of Islamic Art*. New Haven and London: Yale University Press.
- Grabar, O. 1986. "Note sur une inscription grecque à Qusayr 'Amrah". *Revue des études islamiques* 54: 127-132.
- Grabar, O. 1987 (second edition). *The Formation of Islamic Art*. New Haven and London: Yale University Press (first edition in 1973).
- Grabar, O. 1988. "La place de Qusayr 'Amrah dans l'art profane du Haut Moyen Âge". *Cahiers archéologiques* 36: 75-83.
- Grabar, O. 1990. "From Dome of Heaven to Pleasure Dome". *Journal of the Society of Architectural Historians* 49, 1: 15-21.
- Grabar, O. 1992. "L'art omeyyade en Syrie, source de l'art islamique". In *La Syrie de Byzance à l'Islam*, edited by P. Canivet and J.P. Rey Coquais. Damascus: IFEAD, 187-193.
- Grabar, O. 1993. "Umayyad palaces reconsidered". *Ars Orientalis* 23: 93-108.
- Hagedorn, A. 2010. "Fresco from Qusayr Amra". *Discover Islamic Art – Museum With No Frontiers*. Accessed December 10, 2013. [www.discoverislamicart.org](http://www.discoverislamicart.org)
- Hamilton, R.W. 1953. "Carved Plaster in Umayyad Architecture". *Iraq* 15, 1: 43-55.

- Hartner, W. 1967. "Qusayr 'Amra, Farnesina, Luther, Hesiod. Some Supplementary Notes to A. Beer's Contribution". *Vistas Astronomy* 9: 225-228.
- Hashemite Kingdom of Jordan. *Antiquities Law of 1935*. Amman: Hashemite Kingdom of Jordan
- Hashemite Kingdom of Jordan. 1953. *Antiquities Law No. 33 of 1953*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 1968. *Antiquities Law No. 26 of 1968*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 1976. *Antiquities Law No. 12 of 1976*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 1988. *Amendment to the Antiquities Law No. 12 of 1976, No. 14*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 1988. *Antiquities Law No. 21 of 1988*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 2002. *Amendment to the Antiquities Law No. 21 of 1988, No. 23*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 2004. *Amendment to the Antiquities Law No. 21 of 1988, No. 24*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 2005. *Law No. 5 of 2005*. Amman: Hashemite Kingdom of Jordan.
- Hashemite Kingdom of Jordan. 2008. *Amendment to the Antiquities Law No. 21 of 1988, No. 55*. Amman: Hashemite Kingdom of Jordan.
- Heilo, O. 2010. *Seeing Eye to Eye: Islamic Universalism in the Roman and Byzantine Worlds, 7th to 10th Centuries*. PhD diss., University of Wien.
- Helms, S., Betts, A.V.G., Lancaster, F. and Lenzen, C. J. 1990. *Early Islamic architecture of the desert, a Bedouin station in Eastern Jordan*. Edinburgh: Edinburgh University Press.
- Herzfeld, E. 1910. "Amra". In *The Encyclopædia of Islam: A Dictionary of the Geography, Ethnography and Biography of the Muhammadan Peoples*, edited by M. Th. Houtsma, T. W. Arnold and R. Basset, vol. 1: 336-339. Leiden: E.J. Brill.
- Herzfeld, E. 1921. "Mschattâ, Hira und Bâdiya. Die Mittelländer des Islam und ihre Baukunst". *Jahrbuch der Preußischen Kunstsammlungen* 42: 104-146.
- Hill, G. E. 1896. "A Journey East of the Jordan and the Dead Sea, 1895". *Palestine Exploration Fund Quarterly Statement* 28, 1: 24-46.
- Hill, G. E. 1897. "A Journey to Petra". *Palestine Exploration Fund Quarterly Statement* 29, 1: 35-44.
- Hillenbrand, R. 1982. "La Dolce Vita in Early Islamic Syria: the evidence of later Umayyad palaces". *Art History* 5, 1: 1-35.
- Imbert, F. 1996. *Corpus des inscriptions arabes de Jordanie du Nord*. PhD diss., Université de Provence.

- Infranca, G. C., Botticelli, G., Bianchin, S. and Casellato, U. 2004. *The restoration project of the frescoes of 'Qusayr Amra*. Unpublished report.
- IFAPO 1991. *Visite de chantier des 26 et 29 octobre 1991*. Unpublished report.
- ICOMOS 1984. *Advisory Body Evaluation*. Unpublished report. [http://whc.unesco.org/archive/advisory\\_body\\_evaluation/327.pdf](http://whc.unesco.org/archive/advisory_body_evaluation/327.pdf).
- ISCR and WMF 2011. *Conservation Campaign Report, October – November 2011*. Unpublished report.
- ISCR 2009. *Preliminary report on a site assessment visit in Qusayr Amra World Heritage Site*. Unpublished report.
- ISCR 2009. *Qusayr Amra Mural Paintings ISCR Conservation Project*. Unpublished report.
- ISCR 2009. *Qusayr Amra Mural Paintings Conservation Project Proposal – ISCR Technical Report*. Unpublished report.
- ISCR 2011. *Qusayr 'Amra Conservation Program. Winter-Spring 2011 Report*. Unpublished report.
- Jaussen, A. and Savignac, R. 1922. *Mission archéologique en Arabie III: les châteaux arabes de Qeseir Amra, Hâraneh et Tûba*. Paris: P. Geuthner.
- Jones, D. 1978. "Review of *Qusayr 'Amra, Residencia y baños omeyas en el desierto de Jordania* by Almagro M., Caballero L., Zozaya J., Almagro A.". *Apollo-The International Magazine of the Arts* 108: 278-279.
- Justa, P., Houska, M. and Martan, M. 2008. *Qasayr Amra, Jordan. General assessment of mural paintings. Project proposal*. Unpublished report.
- Karabacek, J., von 1902. "Über die Auffindung eines Chelifenschlosses in der nordarabischen Wüste". *Almanach der Kaiserliche Akademie der Wissenschaften* 52: 339-361.
- Karabacek, J., von 1902. "Über die Auffindung eines Khelifenschlosses in der nordarabischen Wüste". *Neue Freie Presse* 13563 (29<sup>th</sup> May): 26-29.
- Kessler, C. 1969. "The floor mosaics of Qusayr 'Amra". In *Early Muslim architecture*, edited by K.A.C. Creswell (second edition), 416-423. Oxford: Clarendon Press.
- King, G. R. D. 1985. "Islam, Iconoclasm, and the Declaration of Doctrine". *Bulletin of the School of Oriental and African Studies, University of London* 48, 2: 267-277.
- King, G. R. D. 2004. "The Paintings of the Pre-Islamic Ka'ba". In *Muqarnas XXI: An Annual on the Visual Culture of the Islamic World*, edited by D. Behrens-Abouseif and A. Contadini. Leiden: Brill, 219-229.
- Korn, L. 2006. "Review of *Qusayr 'Amra. Art and the Umayyad elite in late antique Syria*. By G. Fowden". *Byzantinische Zeitschrift* 99, 1: 231-234.
- Lammens, H. 1908. "La Bâdiya et la Hîra sous les Omayyades". *Mélanges de la Faculté Orientale, Université Saint-Joseph* 4: 91-112.
- Lankester Harding, G. 1959. *The antiquities of Jordan*. New York: Thomas Y. Crowell.

- Lerma, J. L. 2011. *Report on the Qusayr 'Amra Thermographic Survey*, with contribution of Dr J. I. Arce. Unpublished report.
- Lillo, M. 1976. "Review of *Qusayr 'Amra, Residencia y baños omeyas en el desierto de Jordania*, by Almagro M., Caballero L., Zozaya J., Almagro A." *Archivo Espanol de Arte* 49: 354-356.
- Linant de Bellefonds, P. 1991. "Prolongements tardifs de l'icônographie classique en Syrie et Jordanie". In *Ελληνισμος στην Ανατολη. International Meeting of History and Archaeology, Delphi 6-9 November 1986*, 231-243. Athens: European Cultural Centre of Delphi.
- Littmann, E. 1955. "Mukaukis im Gemälde von kusair 'Amra". *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 105: 287-288.
- Marsham, A. 2009. "Review of *Qusayr 'Amra. Art and the Umayyad elite in late antique Syria*. By G. Fowden". *Journal of Semitic Studies* 54, 1: 298-302.
- Medina Florez, V. 1997. *The wall paintings of Qusayr 'Amra (Jordan). Report on the restoration. – Restauración de las pinturas murales de Qusayr 'Amra (Jordania)*. Unpublished report.
- Medina Florez, V. J. and Garcia Bueno, A., 2002. "Metodología en la intervención de las pinturas de Qusayr 'Amra, Jordania". *Ph. Boletín del Instituto Andaluz del Patrimonio Histórico* 39: 59-68.
- Migeon, G. 1914. "Qesejr Amra". *Revue Biblique* 11 n.s.: 392-401.
- Monneret De Villard, U. 1966. *Introduzione allo studio dell'arte islamica*. Venezia: Istituto per la Collaborazione Culturale.
- Montluçon, J. 2000. *Analysis of the illumination possibilities at Ajloun castle and Quseir Amra*. Unpublished report.
- Morin, T. 1996. *La saqiyya de Qusayr 'Amra. Projet de coopération Franco-Jordanien. Aménagement du site de Qusayr 'Amra*. Unpublished report.
- Morin, T. and Vibert-Guigue, C. 2000. "Une structure d'accueil des visiteurs à l'entrée de Qusayr 'Amra". *Annual of the Department of Antiquities of Jordan (ADAJ)* 44: 581-591.
- Moritz, B. 1908. "Ausflüge in der Arabia Petraea". *Mélanges de la Faculté Orientale, Université Saint-Joseph* 3: 387-436.
- Muhammad Hajji Adib ibn Muhammad 1825 "Itinéraire de Constantinople à la Mecque, extrait de l'ouvrage turc intitulé: *Kitab menassik al-hadj*, Constantinople 1232 H. (1816-17), p.68, translated by M. Bianchi". In *Recueil de Voyages et Mémoires Publiés par la Société de Géographie*, vol. 2. Paris: Société de Géographie.
- Musil, A. 1902. "Kuseir 'Amra und andere Schlösser östlich von Moab: Topographischer Reisebericht I". *Sitzungsberichte der Kaiserliche Akademie der Wissenschaften in Wien, Philosophisch-Historischen Classe* 144: 26-51.
- Musil, A. 1905. "Report". *Anzeiger/Akademie der Wissenschaften in Wien, Philosophisch-Historische Klasse* 12: 40-46.
- Musil, A. 1907. *Arabia petraea*, vol. I. Wien: A. Hölder.
- Musil, A. 1907. *Kuseir 'Amra*. Wien: Kaiserliche Akademie der Wissenschaften.

- Musil, A. 1908. *Arabia petraea*, vol 2. Wien: A. Hölder.
- Musil, A. 1927. *Arabia deserta: A topographical itinerary, Oriental Explorations and Studies 2*. New York: American Geographical Society.
- Musil, A. 1928. "The country residences of the Omeyyades". In *Palmyrena, Oriental Explorations and Studies 4*, edited by A. Musil, 277-297. New York: American Geographical Society.
- Necipoglu, G. 1993. "An Outline of Shifting Paradigms in the Palatial Architecture of the Pre-Modern Islamic World". *Ars Orientalis* 23: 3-24.
- Palumbo, G. 2011. "The archaeological sites at Qusayir Amra: elements for a site conservation and management plan". Paper presented at the Workshop on Qusayr 'Amra, Amman, Jordan, February 2 2011.
- Palumbo, G. 2012. *Qusayr 'Amra Project: Site Management Planning Component Proposal*. Unpublished report.
- Palumbo, G. and Peruzzetto, A. 2008. *Qusayr 'Amra. I bagni Omayyadi della Giordania*. Unpublished report.
- Paolini, A. 2011. "Qusayr Amra World Heritage Site. The architecture and its conditions". Paper presented at the Workshop on Qusayr 'Amra, Amman, Jordan, February 2 2011.
- Piccirillo, M. 1984. "The Umayyad churches of Jordan". *Annual of the Department of Antiquities of Jordan (ADAJ)* 28: 333-416.
- Pope, A. U. 1933. "Reviews: The Zodiac of Qusayr 'Amra, by Fritz Saxl. The Astronomical Significance of the Zodiac of the Qusayr 'Amra, by Arthur Beer. Reprinted from K. A. C. Creswell, Early Muslim Architecture, vol. 1, p. 289-303, 19 figs., 1 pl. Oxford, Clarendon Press, 1932". *Isis* 19, 3: 504-506.
- Pope, A. U. 1933. "A Sasanian Garden Palace". *The Art Bulletin* 15, 1: 75-85.
- Rassart-Debergh, M. 2010. "Paintings in Qusayr 'Amra. An Omeyyad bath in the Jordanian badiya". *Latomus* 69, 3: 919-921.
- Rosen-Ayalon, M. 1995. "Return to Qusayr 'Amra". *Archív orientální* 4, 63: 455-463.
- Sanchez, A. 1974. *Informe sobre la campaña de restauración efectuada en Qusayr Amra (Jordania)*. Unpublished report.
- Sauvaget, J. 1939. "Remarques sur les monuments omeyyades". *Journal asiatique* 231: 1-59.
- Sauvaget, J. 1967. "Châteaux Umayyades de Syrie. Contribution à l'étude de la colonisation arabe au Ier et IIe siècles de l'Hégire". *Revue des études islamiques* 35: 1-52.
- Saxl, F. 1932. "The zodiac of Qusayr 'Amra". In *Early Muslim architecture*, edited by K.A.C. Creswell, vol. 1: 289-295. Oxford: Clarendon Press.
- Schick, R. 1998. "Archaeological Sources for the History of Palestine: Palestine in the Early Islamic Period: Luxuriant Legacy". *Near Eastern Archaeology* 61, 2: 74-108.
- Schioler, T. 1973. "Waterwheels in ruined Islamic castles". In *Roman and Islamic water-lifting wheels, Acta Historica Scientiarum Naturalium et Medicinalium* 28: 92-95.



- Seetzen, U. J. 1808. "Beyträge zur Geographie Arabiens. Geschrieben in Jerusalem im May 1806". *Monatliche Korrespondenz zur Beförderung der Erd- und Himmelskunde* 18: 373-393.
- Seigne, J. 1991. *Quseir 'Amra. Note on the restoration works done in September 1991*. Unpublished report.
- Snouck Hurgronje, C. 1907. "Kusejr 'Amra und das Bilderverbot". *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 61: 186-191.
- Stern, H. 1946. "Notes sur l'architecture des châteaux omeyyades". *Ars Islamica* 11/12: 72-97.
- Strika, V. 1967. "Alcune questioni su Qusayr 'Amrah". *Annali dell'Istituto Orientale di Napoli* 17: 343-348.
- Strika, V. 1969. "Il 'Rinascimento' ellenistico nell'arte omeiade". *Atti della Accademia Nazionale dei Lincei* 24, 7: 341-360.
- Strzygowski, J. 1907. "Amra und seine Malereien". *Zeitschrift für bildende Kunst* 42 (18 n.s.): 213-218.
- Strzygowski, J. 1907/1908. "Amra als Bauwerk". *Zeitschrift für Geschichte der Architektur* 1: 57-64.
- Taragan, H. 2008. "Constructing a Visual Rhetoric: Images of Craftsmen and Builders in the Umayyad Palace at Qusayr 'Amra". *Al-Masaq* 20, 2: 141-160.
- UNESCO. 1985. *Report of the 9<sup>th</sup> Session of the World Heritage Committee*. Unpublished report. <http://whc.unesco.org/archive/repcom85.htm#327>.
- UNESCO. 1985. *09COM XA - Inscription: Quseir Amra (Jordan)*. Unpublished report. <http://whc.unesco.org/en/decisions/3852>.
- UNESCO 1997. *State of Conservation Report, 1997*. Unpublished report. <http://whc.unesco.org/en/soc/2139>.
- UNESCO. 1997. *21COM VIIC.55 - Reports on the state of conservation of cultural properties noted by the Committee*. Unpublished report. <http://whc.unesco.org/en/decisions/2834>.
- UNESCO. 1998. *State of Conservation Report, 1998*. Unpublished report. <http://whc.unesco.org/archive/repcom98a4.htm#sc327>.
- UNESCO 1998. *22COM VII.43 - Reports on the State of Conservation of Cultural Properties Noted by the Committee*. Unpublished report. <http://whc.unesco.org/en/decisions/2737>.
- UNESCO. 2010. *34COM 8E - Adoption of retrospective Statements of Outstanding Universal Value*. Unpublished report. <http://whc.unesco.org/en/decisions/4261>.
- Van Berchem, M. 1909. "Aux pays de Moab et d'Edom". *Journal des Savants* n.s. 7: 293-309, 363-372, 401-411.
- Vibert-Guigue, C. 1992. *Deuxième tranche de travaux à Quseir 'Amra: Propositions*. Unpublished report.
- Vibert-Guigue, C. 1992. *L'état des peintures de Quseir 'Amra (Jordanie): le problème des repeints*. Mémoire de diplôme d'études approfondies en archéologie des périodes historiques, Université de Paris I, Panthéon-Sorbonne. Paris: Université de Paris I.
- Vibert-Guigue, C. 1994. "Le projet franco-jordanien de relevé des peintures de Quseir 'Amra/L'état des peintures de Qusayr 'Amra". *Aram* 6: 343-358.

- Vibert-Guigue, C. 1994. *Rapport effectué après l'inondation survenue le 3 novembre 1994 à Quseir 'Amra*. Unpublished report.
- Vibert-Guigue, C. 1995. "Le relevé des peintures de Qusayr 'Amra". *Studies in the History and Archaeology of Jordan (SHAJ)* 5: 105-110.
- Vibert-Guigue, C. 1996, *Repertoire photographique de Quseir 'Amra*. Amman: IFAPO.
- Vibert-Guigue, C. 1997. *La peinture omeyyade du Proche-Orient: l'exemple de Qusayr 'Amra*. PhD diss., Université de Paris I, Panthéon-Sorbonne.
- Vibert-Guigue, C. 1998. "L'oasis raffinée d'un calife omeyyade". *Ulysse* 63: 56-58.
- Vibert-Guigue, C. 1999. "Qusayr 'Amra. Peinture omeyyade et vocation picturale". *Dossiers d'archéologie* 244: 90-94.
- Vibert-Guigue, C. 2001-2002. "La question de l'eau à l'époque omeyyade en Jordanie: approches iconographique et architecturale". *Aram* 13-14: 535-567.
- Vibert-Guigue, C. 2002. "Qusayr 'Amra et le *Répertoire de peintures grecques et romaines* paru à Paris en 1922". *Cahiers archéologiques* 50: 75-92.
- Vibert-Guigue, C. 2004. "Bilderreichtum im Wüstenchloß. Die Bauhandwerker zur Zeit der Umayyaden begeben uns in Kusair Amra (Jordanien)". *Antike Welt* 6: 59-65.
- Vibert-Guigue, C. 2004. "Die Malerei mit den Bauhandwerkern auf einem Gewölbe des Bades von Qusayr 'Amra". *Vernissage* 20: 50-59.
- Vibert-Guigue, C. 2006. "L'hellénisme sous les Omeyyades et les peintures de Qusayr 'Amra". *Dossier d'archéologie et sciences des origines* 318: 76-79.
- Vibert-Guigue, C. 2006. "Review of *Qusayr Amra, Residencia y Baños Omeyas en el Desierto de Jordania*, by Almagro M., Caballero L., Zozaya J., Almagro A.". *Revue archéologique* 2006, 2: 437-439.
- Vibert-Guigue, C. 2006-2007. "Les Omeyyades et l'art de la peinture murale". *Annales archéologiques arabes syriennes* 49-50: 161-175.
- Vibert-Guigue, C. 2007. "L'adaptation de décors antiques à l'époque omeyyade au Proche-Orient". In *Actes du IXe colloque international de l'AIPMA, Saragosse-Calatayud 21-25 sept. 2004, Circulación de temas y sistemas decorativos en la pintura mural Antigua*, edited by G. Pelegrin. Calatayud, 209-216.
- Vibert-Guigue, C. 2008. "Review of Qusayr 'Amra. Art and the Umayyad elite in late antique Syria. By G. Fowden". *Gnomon-Kritische Zeitschrift für die Gesamte Klassische Altertumwissenschaft* 80, 1: 39-44.
- Vibert-Guigue, C. and Bisheh, G. 2007. *Les Peintures de Qusayr 'Amra. Un bain omeyyade dans la bâdiya jordanienne, Bibliothèque Archéologique et Historique 179/Jordanian Archaeology 1*. Beyrouth: IFPO/ Department of Antiquities of Jordan.
- Warren, J. 1991. "Creswell's Use of the Theory of Dating by the Acuteness of the Pointed Arches in Early Muslim Architecture". In *K. A. C. Creswell and His Legacy, Muqarnas VIII: An Annual on the Visual Culture of the Islamic World*, edited by O. Grabar, 59-65. Leiden: Brill.
- Winkler-Horaceck, L. 1998. "Dionysos in Qusayr 'Amra – Ein hellenistisches Bildmotiv im Frühislam".

*Damaszener Mitteilungen* 10: 261-289.

Witkam, J.J. 1966. "Quseir Amra". *Fibula* 7, 2: 35-39

Wittek, P. 1925. "Eine türkische Fürstin auf dem Wandgemälde von Kusajr 'Amra'". *Der Islam* 14: 402-426.

Wright, J. K. 1927. "The Explorations of Alois Musil". *Geographical Review* 17, 2: 177-206.

Zayadine, F. 1977. *The frescoes of Quseir 'Amra*. Amman: Department of Antiquities of Jordan.

Zayadine, F. 1978. "The Umayyad frescoes of Quseir 'Amra'". *Archaeology* 31: 19-29.

Zayadine, F. 1986. "Peintures murales et mosaïques à sujets mythologiques en Jordanie". *Iconographie classique et identités régionales, Bulletin de correspondance hellénique* 14: 407-432.

Zayadine, F. 1988. "The Umayyad frescoes of Quseir 'Amra'". *Jordan Spring/Summer* 1988: 8-15.







