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# JORDAN TOURISM DEVELOPMENT PROJECT II (JTD II)

**RECOMMENDATIONS FOR THE WADI RUM WORLD HERITAGE  
NOMINATION DOSIER  
DECEMBER 2009  
FINAL**

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**2142 RECOMMENDATIONS FOR THE WADI RUM WORLD HERITAGE  
NOMINATION DOSIER**

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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## ACRONYMS

<b>ASEZA</b>	Aqaba Special Economic Zone Authority
<b>RSCN</b>	Royal Society for the Conservation of Nature
<b>SOW</b>	Scope of Work
<b>TOR</b>	Terms of reference
<b>UNESCO</b>	United Nations Educational, Scientific, and Cultural Organization
<b>USAID</b>	United States Agency for International Development
<b>WH</b>	World Heritage

## INTRODUCTION

This report responds to the Jordan Tourism Development Project II activity to *Enlist Wadi Rum as a World Heritage Site*, and presents the findings of SOW No. 2140 to *Finalize the Wadi Rum Nomination Dossier*. The consultancy, 16 days in length, was undertaken during the 1 November to 15 December, 2009 period. The objective of the consultancy was to “*assess the first draft of the Wadi Rum World Heritage nomination dossier submitted to UNESCO and provision of recommendations for enhancement in terms of content, structure and presentation*”. In addition, the consultant was asked to provide suggestions on the process for revising the current Wadi Rum Protected Area Management Plan.

## RECOMMENDATIONS

The team that put together the draft Wadi Rum nomination file is to be congratulated for an excellent piece of work. In general, the dossier follows the structure and presentation required by UNESCO, and indeed UNESCO has reviewed the file and has indicated its completeness except with respect to (1) wording on the maps, (2) needed improvements in the description of the rock art, and (3) the need for a statement of authenticity. In addition, the consultant recommends that the *Justification - Statement of OUV* be reworded to follow more closely the guidelines that have been established by IUCN and ICOMOS. This is the most essential part of the dossier and merits special attention.

### Description of the Rock Art

As indicated by UNESCO, there is no description of the rock art in section 2.a of the dossier, even though this forms the basis for nomination under criteria (iii) and (v). On the other hand, there is an excellent description of rock art and inscriptions in Section 2.b. Thus, to meet UNESCO’s concerns, it is recommended that the section on *Rock Art and Inscriptions* currently included in Section 2.b (pgs. 57-59) be transferred to Section 2.a. For consistency, it is recommended that the same be done for the section of *Qu’ranic Mention and Importance of Islam* (pgs. 59-60).

### Statement of Authenticity

The Statement of Authenticity refers to the values identified in the cultural nomination criteria and the degree to which they are truthfully and credibly expressed through a variety of attributes. The consultant cannot be an author of the nomination dossier, and as a natural scientist cannot be considered expert with respect to the cultural aspects of the site. However, using recent statements of authenticity for rock art sites in Namibia, Malawi, Tanzania, and Azerbaijan as examples, the following draft statement of authenticity may provide elements the cultural specialists dealing with the Wadi Rum nomination dossier may want to consider.

The more than 20,000 examples of rock art and inscriptions, concentrated in Wadi Rum, are an open air library of images and writing, the authenticity of which has been proven by scientific research and corroborated by evidence found through excavations of nearby prehistoric and historic archaeological sites. These clearly document human presence and a continuity of cultural practices as foragers, agriculturalists, pastoralists, and traders over an extremely long period of time, linking the very distant past with the rich living heritage of present day communities of the Arabian Peninsula. These extraordinary testimonials to sophisticated intellectual activity and livelihoods over a period of at least 12,000 years remain in their original setting, largely unaltered except for the effects of weathering. Modern graffiti have been added in a few of the more accessible sites, but this has decreased significantly since the establishment of the Protected Area, and no other intrusive elements have been introduced. Likewise, the Qu’ranic story of Iram, and its mention in the Thousand and One Nights, are authentic expressions of Islamic literature, and the identification of Wadi Rum as the site of Iram is supported by credible scientific evidence derived from numerous Nabatean and Thamudic inscriptions in the area.

## **Justification – Statement of Outstanding Universal Value**

While the consultant cannot be considered one of the authors of the nomination, the following general text may provide guidance for improving the wording of this most important section of the nomination dossier. The IUCN guidelines provided for this section of the nomination dossier are inserted in red as a reminder of the purpose and recommended length of the text.

### *Justification – Statement of Outstanding Universal Value*

#### *Synthesis of key values (150 words)*

*The Wadi Rum Protected Area is a mixed property composed of scenically stunning and tightly interwoven natural and cultural attributes in a lived-in desert environment. The Area is the product of millions of years of geological processes, and thousands of years of interactions between humans and nature in a hostile desert environment. Geology has been the ever-present artist; a sculptor playing with abundant possibilities of form, colour and texture. Widespread petroglyphs and inscriptions eloquently attest to 12,000 years of human history while on-going land use reflects a traditional but dynamic Bedouin culture. North-Arabian inscriptions have allowed scholars to identify Wadi Rum as a site specifically mentioned in the Qur'an (89: 7-8), the Holy Book for over one billion Muslims. This unique property satisfies all key requirements for an effective long term management and protection process that balances the visions and needs of a wide spectrum of stakeholders.*

#### *Criteria (max 200 words per criterion)*

*The property manifests outstanding universal values with respect to five separate, but fully complementary, World Heritage criteria. These can be summarized as: (iii) exceptional testimony to a cultural tradition or civilization, (v) outstanding example of human interaction with the environment, (vi) association with literary works of universal significance, (vii) significant natural beauty and aesthetic importance, and (viii) significant geomorphic features.*

*Criterion iii: The Wadi Rum Protected Area bears a unique testimony to the practice of rock art and inscriptions that has been on-going for millennia. The combination of 20,000 petroglyphs with thousands of rock inscriptions, and their continuity over a period of at least 12,000 years, sets Wadi Rum apart from other rock art and/or inscription sites. The petroglyphs, representing humans and animals, are engraved on boulders, stones, and cliff faces. They trace the evolution of human thought; the long-term patterns of pastoral, agricultural, and urban human activity in the Arabian Peninsula; and the environmental history of a distinct region that has evolved climatically from mildly humid to semi-arid. The engravings indicate an elaborate sense of aesthetics and a pictorial culture. Numerous inscriptions in four different North-Arabian scripts testify to the emergence of alphabets side by side with iconic representations, and widespread literacy among pastoral societies in the Arabian Peninsula. Thus, the open-air library that is Wadi Rum is critical site for the study and understanding of the evolution of aesthetics, writing and literacy.*

*Criterion v: The variety of landforms at Wadi Rum have played an essential role in fostering human settlement and, as a result, the development of sophisticated intellectual activity that is documented by abundant petroglyphs and rock inscriptions. This graphic testimony to diverse cultural traditions and civilizations over millennia is one of the world's richest sources of documentation. Nowhere else in the world can one find such a wealth of information that enables the study and understanding of the continuum of settled and mobile lifestyles in a desert landscape. Here is a record of resource use in this desert and mountain environment illustrating the adaptability and ingenuity of human communities who have made the most of scarce resources to sustain continuous presence after the climate became dryer in the Bronze Age (3<sup>rd</sup> millennium BC). This is why the significance of the Wadi Rum Protected Area goes far beyond its north-Arabian context as it represents a uniquely documented instance of human interaction with dry environments of relevance to other arid areas worldwide.*



*Criterion vi: North-Arabian inscriptions have allowed scholars to identify Wadi Rum with Iram, where the tribe of 'Ad lived. The site and the tribe are mentioned in the Qur'an (89: 7-8), the Holy Book for over one billion Muslims. According to evidence derived from numerous inscriptions in various alphabets, ancient Iram and the tribe of 'Ad can only have been located in Wadi Rum. The Qu'ranic story of Iram, "the place of the columns", exemplifies divine punishment over a corrupt people. Allah left Iram buried under the sands of the desert, making Iram and 'Ad legends to be spoken of and an exemplary lesson of warning.*

*Criterion vii: The aesthetic beauty of Wadi Rum is produced by an astonishing and iconic assemblage of landforms. The continuous uplift, tectonic faulting, weathering and erosion have transformed the mountains of Wadi Rum into a visual tableau of towers, pyramids, domes, narrow gorges, mushrooms, wide flat-bottom valleys called "wadis", sand plains, and sand dunes. Soaring mountain peaks rise vertically from colourful sand plains and dunes. Summit shapes trace pillars, castles, domes and pyramids in the desert sky. Loose sands climb on the cliffs and fill wide wadis. Vertical cliffs with long vertical striations have been sculpted to produce rounded columns of coloured sandstones often featuring magnificent stone arches, inselbergs and mushrooms. To eloquently express his overwhelming awe when he first entered Wadi Rum in 1916, T. E. Lawrence recorded this passage: "Our little caravan grew self conscious, and fell dead quiet, afraid and ashamed to flaunt its smallness in the presence of stupendous hills" (Seven Pillars of Wisdom, 1926: 342).*

*Criterion viii: The Wadi Rum Protected Area holds an exceptional record of Earth's history, illustrating a braided river depositional environment in a true desert setting with a mix of landforms. Though produced 30 million years ago, Wadi Rum is, however, the result of much longer geological processes spanning over 630 million years. Sandstones sit atop a granite base, and are exposed in three dimensions as countless outcrops. Springs form naturally at the juncture of the sandstone and granite base, a feature of critical importance to wildlife and human use of this environment. The Area as it stands today is the result of eons of lithology, uplift, faulting, weathering and erosion that exist nowhere else with the same magnitude. Elongated vertical joints over 350 m in length slice through the faces of the mountains, creating 90 degree cliffs on each side of the mountain blocks. The mountains rise vertically, as if planted in the loose sands that blanket the bottom of the valleys at 800m., and ascend over 1,000 m. to the mountaintops. Ongoing weathering and wind erosion sculpts the sandstone between the joints to produce long rounded sandstone columns. Flat-bottom valleys or "wadis", filled with shifting sands and occasional low dunes, are another unique landform that adds to the diversity of the landscape. Such valleys are characteristic of glacial processes, and are not normally found in deserts. A continuous line of mud flats (Qaa') lying at 800 metres asl run along the boundaries of the sand stone formations and form a notable case of geomorphic contrast. According to experts in desert landforms, Wadi Rum is the best place in the world to observe such high cliffs, extraordinary columns and niches, and the full sequence of rock falls of various types produced by weathering of the rock mass. While the landforms of this incredible setting are, without doubt a unique work of art, they also serve to help us interpret the geology as a basic conditioning element of the desert ecosystem. It reveals to us in its magnitude and subtleties the full story of Rum as told by nature.*

**Key Features and Adequacy of the Protection and Management System for OUV (250 words max)**

*The Wadi Rum Protected Area is the largest protected area in Jordan and the Levant region. It was established in response to an IUCN report in 1979 that proposed a national network of protected areas to conserve the representative desert landforms and ecosystems along with their associated cultural values. Covering more than 72,000 ha, the Protected Area encompasses the finest examples of the target natural and cultural values and attributes that are the basis for the claim to outstanding universal value. The area includes more than 50% of the iconic sandstone landforms in Jordan and the wider Hisma desert, intermingled with their representative desert ecosystems, habitats and species along with their associated cultural values. The Protected Area also encompasses the majority of the rock art and inscriptions of the Hisma basin.*

*The Protected Area satisfies all key requirements for effective long term management and protection of the area's outstanding universal values. The boundaries for the area were designated and delineated through a participatory process with stakeholders, which resulted in special legislation for Wadi Rum. A comprehensive management plan, also the result of a thoroughly participatory process, was developed for*

*the area in 2003 and a full review is planned for 2010. The Protected Area is managed by a competent, well equipped staff that has ample monitoring and enforcement capabilities, and is adequately backed by legal mandates and regulations.*

*Specific long-term Expectations of Protection and Management (key issues that require long term attention) (max 100 words per issue)*

*The Management Plan review process will provide an opportunity to develop a strategic approach to the analysis and adoption of actions to deal with management issues requiring long term attention. These key issues include (1) governance arrangements, (2) the impacts to desert ecosystems and aesthetics generated by the use of private vehicles to transport visitors to the major attractions, (3) expansion of the Wadi Rum Village in response to natural growth, (4) diversification of the Management Committee to include a broader spectrum of stakeholders, and (5) transformation of Wadi Rum into a model zero carbon Protected Area.*

*Governance: The Protected Area lies within the Aqaba Special Economic Zone Authority (ASEZA) region, which assigns a Management Unit with legal authority for land use planning, management and monitoring for the protected area and buffer zone. ASEZA is, however, an agency primarily concerned with economic development. Governance and management of a protected area require a diverse set of specialized capacities at all levels that normally are not associated with an economic development agency. In the long run, therefore, it will be important to strengthen ASEZA's capacities in this regard, either through cooperative agreements with agencies that already have those capacities, or through an on-going capacity building programme within ASEZA.*

*Degradation of the Desert Landscape by Vehicles: In the peak season 80 tours per day are provided for visitors by individual local 4X4 owners. The condition of the fleet of over 500 vehicles, and the capacities of the owners as guides, vary considerably. It has proven difficult to control these vehicles, and tracks have proliferated across virtually all areas within the resource use zone, causing damage to vegetation and scarring of the landscape. The problem has defied a variety of solutions that have been tried to date, and will require creative long term management measures. The introduction of electric or hybrid vehicles may provide an opportunity to introduce creative approaches while simultaneously reducing carbon emissions.*

*Expansion of Rum Village: Rum village lies in the heart of the Protected Area and is the only settlement inside the boundaries. The village boundaries restrict its area to 40.4 ha., and today it does not represent a source of significant impact on the Protected Area. However, natural growth of the population and the need for additional infrastructure have generated demands for expansion. This will be a continuing problem that will require clear policies and the political will to enforce them.*

*Diversification of the Management Committee: The existing Management Committee has proven to be a useful tool for participatory management of the Protected Area, yet not all stakeholders are represented. Thus, in the long term the Committee will require expansion, though the needs for more diverse representation have to be balanced with concerns for functionality.*

*Transformation to a Zero Carbon Protected Area: World Heritage properties serve as models for protected area management in general and can serve as platforms for the introduction of new concepts and technologies. Addition of Wadi Rum to the World Heritage list provides a unique opportunity in terms of visibility, media attention, and financial resources to introduce the concept of management adaptations over the long term that will lead to implementation of a carbon free Protected Area.*

### *Summing Up*

*In his world renowned piercing vision, the late King Hussein of Jordan once said: "Wadi Rum is not for a human; it is for humanity". This demonstrates Jordan's long established understanding of the global significance of the Wadi Rum Protected Area and its commitment to conserve it and present it for the benefit of future generations. His successor, King Abdullah II, firmly follows on his father footsteps and considers the Wadi Rum Protected Area a national icon to be safeguarded as a common heritage of humanity.*

## BENCHMARKS

Though Wadi Rum is nominated under five criteria (iii, v, vi, vii, and viii), the nomination basically hinges on two basic values, the rock art / inscriptions and the desert landscape. .

### Rock Art and Inscriptions

As noted in World Heritage Series Publication No. 24, rock art expressions resist clear and precise geographic, technical or conceptual classification. The variety of techniques (geoglyphs, high and low reliefs, paintings, and engravings) surfaces (caves, overhangs, ledges and exposed surfaces), geographical locations (ecological tiers, latitudes and continents), and time periods make it difficult to benchmark Wadi Rum with other rock art / inscription sites. However, certain tendencies in the 21 World Heritage rock art sites (excluding carved rock sites like Petra) that have been inscribed to date can be noted. Most have been inscribed as cultural sites, though eight have been inscribed as cultural landscapes, and four as mixed sites. Most are listed under criterion (iii), and only 5 sites are listed under criteria (v). While African rock art sites have been associated mainly with cultural criteria, in the Arab States they have been associated with both cultural and natural values. There are 43 rock art sites on Tentative Lists, but none are in the Arab States.

While acknowledging that comparisons are difficult, some general characteristics like the time period they represent and the concentration of images can be roughly compared as is shown in the following table.

**World Heritage Rock Art Sites  
(Excluding carved rock sites like Petra)**

Country	Site	Concentration of Images	Age
Algeria	Tassili n'Ajjer	15,000 drawings and engravings	8,000 – 1,800 BP
Argentina	Rio Pinturas	6 concentrations of rock art	9,300 -1,300 BP
Australia	Kakadu	?	15,000 BP
Australia	Purnululu	200 sites	?
Botswana	Tsodilo	4,500 paintings	2,000 BP
Brasil	Serra de Capivara	300 sites	14,000-6,000 BP
France	Vézère Valley	25 decorated caves	
Gabon	Lopé-Okanda	1,800 petroglyphs	2,300-1,400 BP
India	Bhimbetka	400 painted rock shelters	10,000 BP
Italy	Valcamonica	140,000 symbols and figures	8,000 BP.
Kazakistan	Tamgaly	5,000 petroglyphs	4,500 BP
Libya	Tadrart Acacus	Thousands of cave paintings	14,000 – 1,900 BP
Malawi	Chongwi	127 sites	2,500 BP
Namibia	Twyfelfontaine	2,000 engravings	2,000 BP.
Mexico	Sierra de San Francisco	4 groups	2,100-700 BP
Norway	Alta	Thousands of images in 45 sites	6,200-2,500 BP
Portugal	Coa Valley	194 decorated panels, 1,200 animal figures	24,000-12,000 BP
South Africa	Drakensberg	35,000 individual images	4,000 BP
South Africa	Mapungubwe	Rock paintings	15,000-10,000 BP
Tanzania	Kondoa	150-450 sites	?
Zimbabwe	Matobo Hills	20,000 paintings	13,000 BP
Jordan	Wadi Rum	20,000 petroglyphs	12,000 BP to present

Based on these very rough comparisons, it can be concluded that while the concentration of images at Wadi Rum is among the top sites in the world, it is probable (depending how images were counted) that Vilcamonica in Italy (140,000 symbols and figures) and Drakensberg in South Africa (35,000 individual images) have more abundant images. With respect to the age of the images, rock art sites in the Coa Valley of Portugal (24,000-12,000 BP), Kakadu in Australia (15,000 BP), Mapungubwe in South Africa (15,000-10,000 BP), the Serra de Capivara in Brasil (14,000-6,000 BP), Tadarat Acacus in Libya (14,000 – 1,900 BP), and Matobo Hills in Zimbabwe (13,000 BP), are older. Though information is incomplete, it would appear that Wadi Rum is in the lead in terms of the time period represented by the rock art (13,000 BP to present) though the Coa Valley of Portugal would seem to be close (24,000-12,000 BP), though for a very different time period.

## **Desert Landscape**

Deserts cover about a third of the earth's surface and, because of their characteristic dryness and lack of vegetation, they tend to have a wide range of easily visible and spectacular landforms. The plants, animals, and humans that do live in deserts often show unusual adaptations to their arid habitats. Among existing World Heritage properties, 7 have been listed because of the outstanding universal value of their desert landscapes. These include:

- Dinosaur Provincial Park, Canada
- Wilandra Lakes, Australia
- Tassili n'Ajjer, Algeria
- Uluru-Kata Tjuta, Australia
- Ischigualasto/Talampaya, Argentina
- Purnululu, Australia
- Wadi Al-Hitan (Whale Valley), Egypt

The table for comparing Wadi Rum nationally, regionally, and globally (pgs. 72-73 of the dossier) is an excellent summary that shows that Tassili n'Ajjer in Algeria and Uluru-Kata Tjuta in Australia are the only two existing World Heritage properties that can be compared to Wadi Rum. If the symbols that are used are converted to numbers, it shows that, taking all values into account, Wadi Rum comes up with a score of 35, Tassili n'Ajjer with 32, and Uluru-Kata Tjuta with 27. While these are the best benchmarks available, it should be recognized that they are based on incomplete information and qualitative judgements..

It should be noted that for expertise on desert landscapes, IUCN will turn to Dr. Andrew Goudie of St. Cross College, Oxford, who is currently finishing a thematic study for IUCN on deserts as World Heritage Sites. Chemonics has also been wise in consulting Dr. Goudie on the global importance of Wadi Rum. In the most recent draft of the thematic study, Dr. Goudie lists 10 desert sites that he considers to be high priorities for listing as World Heritage. Wadi Rum is not on that list, but Dr. Goudie points out that the list is not exhaustive and that there are 5 sites on States Parties' Tentative Lists that have very considerable merit, and Wadi Rum is one of them. It should also be noted that in a PowerPoint on Environmental Geomorphology prepared by Dr. Goudie, and presented at the Geomorphology 2009 Conferences in Melbourne in July, he indicates Wadi Rum as an important desert area that should be included on the World Heritage List.

## **COMPLETENESS AND CLARITY**

Several points could be included in the dossier to enhance its completeness and clarity. These are indicated in the consultant's suggested revisions shown as track changes in the nomination dossier itself as well as in the following text.

In addition to the incomplete sections mentioned by UNESCO (the text of the map, rock art descriptions, and the statement of authenticity --- see recommendations above), there are other points that might be included in the dossier:

1. More and more the World Heritage Committee is concerned to see that participatory processes have been used in management of the protected area and preparation of the dossier. Thus, reference to stakeholder consultations needs to be added to a number of sections where boundaries, the management plan, and management programs are discussed (see *track changes* in the dossier).
2. Climate change is also a topic that increasingly receives attention by the Committee. While climate change is mentioned in the dossier as a factor affecting management, the planned management response is not indicated. How will management adapt to the expected changes? Will the Protected Area seek to mitigate its carbon footprint, and if so, how will this be approached?
3. Under criterion viii (pg. 63), it might be useful to add mention of the specific geological feature where sandstone layers meet granite base rock, causing springs to form. This is a critically important geomorphic feature of this desert landscape that enables the area to support a greater variety of wildlife and vegetation than other desert formations, and enables human survival in an otherwise hostile environment. See suggested wording for this criterion under Justification-Statement of Outstanding Universal Value above.
4. On page 94 the Management Committee is mentioned, but there is no indication of its strengths and weaknesses. During interviews it was noted that:
  - a Scientific Committee is needed to inform the decisions of the Management Committee;
  - the status of the Management Committee needs to be clarified concerning its role (is it a decision-making body or an advisory body?); and,
  - The makeup of the Committee needs to be expanded to go beyond the immediate circle of tribal leaders to include a more diversified representation of stakeholder groups.

These are important issues that should be addressed in the text.

There are several points that would benefit from clarification:

1. The term “integrated desert landscape” is a technical term referring to geomorphology that is used throughout the document, but is never explained and for most non-scientists is not at all obvious. Thus, at first mention on page 5, it should be explained as a term used to indicate a landscape which is an assemblage of distinct landforms.
2. On page 7 and elsewhere it is indicated the 30,000 hectares will be added to the Protected Area in 2010. How does this relate to item 1.f Area of Nominated Wadi Rum Protected Area (pg. 19)? Is this already included in the 56,300 hectares of the buffer zone?
3. On page 8 the specifics of staff levels are not included. The impressive number of staff in managerial, technical, and service positions should be indicated and reference made to the table on pg. 113.
4. On pg. 94, the Wadi Rum Protected Area Development Fund is mentioned, but the sources of income for capitalization of the fund are not. It should be indicated that currently income from entrance fees and fines go to the Treasury, and not to the Fund. This is a situation that needs to be rectified if sustainable finance is to be achieved for the Protected Area. During interviews it was indicated that the policy is to use the Development Fund as a trust fund where the capital is invested and only the interest is disbursed for activities in the Protected Area. Thus, it is even more important the entrance fees and fines feed the fund’s capitalization, and these points should be indicated in the text and listed as points that need to be addressed in the revised management plan.

5. The budget on pg. 106 does not show the Development Fund nor its level of capitalization.
6. On pgs. 115-116 there is no mention of wildlife counts as a key indicator for measuring the State of Conservation. This is, however, a fundamental indicator and should be included as a matter of priority.

The counts of the re-introduced oryx should be mentioned in this regard. In addition, the fact that funding is not available for wildlife counts should be acknowledged and indicated as a point that needs to be taken into account as part of the revised management plan. Can arrangements be made with a university to carry out these counts on a periodic basis?

## UNOFFICIAL SCORING

In evaluating a nomination, IUCN analyzes the following aspects:

1. justification of outstanding universal value according to the criteria that have been used, including:
  - comparative analysis with properties that have been nominated under similar criteria
  - comparison to the recommendations of global thematic studies
2. evaluations of integrity and/or authenticity
3. conditions of protection and management

Wadi Rum will score well on all accounts. The comparative analysis is well done and shows that Wadi Rum compares favorably with the two existing World Heritage sites that are similar. Just as important, recent decisions by the IUCN Panel set a precedent of supporting the nomination of a site that is similar to or better than another site already on the World Heritage List if the newly nominated site is in a country with few natural heritage sites, and if its values relate to a natural theme that is under-represented on the World Heritage List. Wadi Rum qualifies on both accounts. As noted previously, the draft thematic study on deserts by Dr. Andrew Goudie supports the Wadi Rum nomination.

- The analyses of integrity and authenticity are positive and the conditions of protection and management are met though, as always, there are points that could be improved. The most critical points for protection and management of the site identified by the Consultant are:
- The management plan is out of date and has not been used since management of the area was transferred to ASEZA.
- The governance structure, which has Wadi Rum administratively under ASEZA, an entity dedicated to economic development, is not ideal in terms of conservation.
- The use of private vehicles (many of which are in a deplorable state of maintenance and are driven by “guides” unable to speak foreign languages) to transport tourists inside the Protected Area has caused severe degradation of the desert environment and produces multiple tracks that damage the aesthetic qualities of the landscape.
- Residents of the Wadi Rum Village are concerned about the small space allocated to the village, and the restrictions imposed by the Protected Area which do not allow expansion in the face of natural growth.
- There is concern that the Wadi Rum Management Committee needs to be expanded to include a broader cross-section of the communities in and around the Protected Area in the decision-making process.

In the opinion of the Consultant, none of these points is serious enough for IUCN to conclude that management of the site is insufficient to protect the outstanding universal values that have been identified.

## **ADDITIONAL INFORMATION**

As indicated earlier, the nomination dossier is an excellent document that does not require additional information. What has been suggested is the following:

1. Rewording of the Justification – Statement of Outstanding Universal Value.
2. Development of a Statement of Authenticity taking into account the suggestions outlined above.
3. Addition of points on participatory processes, climate change, springs, and the management committee (see above).
4. Note clarification in the text of points on “integrated desert landscapes”, the size of the Protected Areas, the specifics of staff levels, the Development Fund, and monitoring (see above).
5. Consider rewording of the text as suggested in “track change” in the Consultant’s copy of the nomination dossier.

## **INPUT TO VIDEO**

The draft outline for the video and the Consultant’s suggestions in “track change” are presented in Annex I.

## **ENHANCEMENT OF TEXT AND FINAL NOMINATION DOSSIER**

The consultant’s suggestions for improving the text are shown in “track change” in the attached version of the nomination dossier. As noted in item VII. Of the Scope of Work for the consultancy, “The consult is engaging in this assignment as an adviser to the USAID/JTD II and the Government of Jordan, to review and edit the existing nominations draft. He is not participating in his capacity as IUCN/WCPA vice Chair for World Heritage, nor is he considered as the author of the nomination file”. As a consequence, the recommendations that have been presented above, and in the “track changes” in the text of the nomination dossier, should be considered as suggestions, but the final nomination dossier must be authored by the other Chemonics specialists contracted for this purpose.

## **MANAGEMENT PLAN REVISION PROCESS**

Revision of the Wadi Rum Management Plan should be a technical process that forms an integral part of the management system for the Protected Area. It should be participatory in nature and guided by the management committee, expanded to include a more diverse representation of stakeholders. The process could be carried out over a 1 year to 2 year period and include the following steps:

1. An evaluation of management effectiveness which includes outside experts.
2. A scoping exercise to determine major issues to be addressed, possible technical studies that may be needed to support the decision-making process, and the identification of culturally appropriate communication techniques.
3. A community outreach effort to inform stakeholders about the plan revision process and to plan how diverse stakeholder interests and perspectives can be fed into the planning process.
4. Development of a planning team that reflects the diversity of interests involved.
5. Field work to research critical issues.
6. Discussion of alternative solutions to the major issues identified and researched among stakeholders.
7. Preparation of a first draft plan.
8. Review of the plan among stakeholders both through the written word and verbal presentations.
9. Synthesis of observation on the draft plan and formulation of a second draft.
10. Circulation of the second draft for final review.
11. Preparation, printing, and distribution of the final draft.

One important goal that might be considered as a major input to the planning process is the conversion of Wadi Rum into a carbon-free Protected Area. This would have major implications for management, would require substantial efforts at infrastructure conversion and re-development, but could also trigger funding from a variety of sources such as carbon offset funds, international assistance agencies, and bilateral assistance.

The U.S. National Park Service is undertaking the development of carbon-free Parks, and could potentially assist with the analytical process that is central to development of a conversion program. If the carbon free goal is adopted, the process for the revision of the management plan becomes more complex, would require greater technical assistance, and would probably make it necessary to extend the process to 2 years.

If done carefully, and through a thorough consultative process, the introduction of low carbon or carbon free vehicles for the transport of visitors within the Protected Area could potentially provide an opportunity to improve the control and quality of service of local guides, and significantly reduce impacts on the desert ecosystems. Cultural Anthropologist Laura Strachan was asked to comment on how the introduction of low carbon or carbon free vehicles might be seen by the local Bedouin communities, and her response is appended as Annex II. Given her knowledge of the Protected Area and the local community, her paper should be used as an input to the management plan revision process.

In developing the process of revision of the Wadi Rum Management Plan, it may be useful to include in the team a specialist on park management planning, and a specialist on developing carbon free parks.

In addition once the management plan has been completed it may be useful to consult with a specialist on funding for climate change projects to help identify and tap funding sources that could help defray the costs of conversion to a carbon-free park.

## **OTHER COMMENTS**

1. IUCN and its World Commission on Protected Areas are developing, in partnership with the newly established Arab Regional Center for World Heritage (ARC-WH) in Bahrain, a capacity building initiative for World Heritage focusing on the Middle East and North Africa Region. The first activities will be aimed at the harmonization of Tentative Lists for World Heritage, and the preparation of nomination dossiers. Given the experience that Jordan and the Siyaha Project have gained in preparing the nomination dossier for Wadi Rum, and considering the excellent quality of the dossier, Jordan may wish to consider inviting IUCN and ARC-WH to carry out the regional workshop on the preparation of World Heritage nomination dossiers in Jordan in partnership with the Siyaha Project and the Wadi Rum Protected Area Management.
2. The Siyaha Project may also wish to consider hosting a regional course, in partnership with IUCN and ARC-WH, at the end the process for revision of the management plan. Indeed, the course could be part of the events surrounding the launch of the revised management plan. The purpose of the course would be to share experience with respect to revision of the Wadi Rum management plan, conversion to a carbon-free Protected Area, and development of climate change projects to finance the conversion.
3. The consultant wishes to thank the Siyaha Project staff for their kind assistance in carrying out this assignment, especially Ibrahim Osta, Maysa Shahateet, Omar Al Omari, Tarek Abul Hawa, Rania Khattab, and Reem Kattan; and also Chemonics staff in Washington, especially Jamie Hausch and Houman Saberi. Thanks to all!



## ANNEX I – COMMENTS ON VIDEO OUTLINE

### Wadi Rum nomination For World Heritage status

#### Nomination film outline

##### Send to:

Fluid productions, Johnny Dabeet, [john@fluid.jo](mailto:john@fluid.jo)  
Third eye fx, Issam Hussein, [issam@thirdeyefx.com](mailto:issam@thirdeyefx.com)  
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Jackie Sawiris  
Kabariti

##### Film details

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**Length:** 5 – 8 minutes

**First draft due:** 10 January, 2010

**Final film due:** 19 January, 2010

##### Content

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##### *Introduction*

Where Wadi Rum is, its general characteristics and attractions, topography, who lives there, how it is managed, visitation, etc.

Wadi Rum is being nominated for listing as a World Heritage Site under the provisions of the 1972 World Heritage Convention. Currently 186 countries have ratified the Convention and 890 properties have been listed (689 cultural, 176 natural, and 25 mixed). If accepted onto the list of World Heritage, Wadi Rum will be recognized as being of global importance.

##### *Synthesis of Key Values*

The Wadi Rum Protected Area is composed of scenically stunning and tightly interwoven natural and cultural attributes in a lived-in desert environment. The Area is the product of millions of years of geological processes, and thousands of years of interactions between humans and nature in a hostile desert environment. Geology has been the ever-present artist; a sculptor playing with abundant possibilities of form, colour and texture. Widespread petroglyphs and inscriptions eloquently attest to 12,000 years of human history while on-going land use reflects a traditional but dynamic Bedouin culture. North-Arabian inscriptions have allowed scholars to identify Wadi Rum as a site specifically mentioned in the Qur'an (89: 7-8), the Holy Book for over one billion Muslims. This unique property satisfies all key requirements for an effective long term management and protection process that balances the visions and needs of a wide spectrum of stakeholders.

### ***Outstanding Universal Value***

Wadi Rum is being nominated based on fulfilling two natural criteria and three cultural criteria. The natural criteria are based on the striking landscape of the Wadi Rum Protected Area, which was formed 30 million years ago and represents an exceptional record of Earth's history. The cultural elements are based on the civilizations that have resided in or passed through Wadi Rum over the past millennia and the marks they have left behind, as well as the Bedouin communities who currently live in this amazing desert and who have a fascinating culture, traditions and history.

### ***Integrity and authenticity***

Highlight that the Wadi Rum Protected Area is well-defined and is being well-managed. It spans over a large area and includes a buffer zone. The area is governed by regulations that oversee environmental protection, development and management, and sale and lease of land. Programs are in place to preserve the cultural aspects as well, including rock-art.

The more than 20,000 examples of rock art and inscriptions, concentrated in Wadi Rum, are an open air library of images and writing, the authenticity of which has been proven by scientific research and corroborated by evidence found through excavations of nearby prehistoric and historic archaeological sites. These clearly document human presence and a continuity of cultural practices as foragers, agriculturalists, pastoralists, and traders over an extremely long period of time, linking the very distant past with the rich living heritage of present day communities of the Arabian Peninsula. These extraordinary testimonials to sophisticated intellectual activity and livelihoods over a period of at least 12,000 years remain in their original setting, largely unaltered except for the effects of weathering. Modern graffiti have been added in a few of the more accessible sites, but this has decreased significantly since the establishment of the Protected Area, and no other intrusive elements have been introduced. Likewise, the Qu'ranic story of Iram, and its mention in the Thousand and One Nights, are authentic expressions of Islamic literature, and the identification of Wadi Rum as the site of Iram is supported by credible scientific evidence derived from numerous Nabatean and Thamudic inscriptions in the area.

### ***Management***

The Wadi Rum Protected Area is run by a dedicated authority with well trained staff and an effective management plan is in place to ensure the area is properly managed. Conservation and preservation of the nature and culture are a priority.

### ***Final message***

Wadi Rum is a site of significant universal value and this is recognized by Jordanians, who have made it a national priority to take care of this site, and to seek recognition of its global significance through listing as a World Heritage Property.

### ***Acknowledgements***

Acknowledge all parties involved in this nomination.

### ***Interviewees***

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Suggested interviewees are, but not limited to:

- WRPA manager
- ASEZA representative
- Wadi Rum local community
- Historian
- Archaeologist
- H.E. Akel Biltaji
- USAID and Siyaha II representatives

## **ANNEX II – COMMENTS BY LAURA STRACHAN ON THE INTRODUCTION OF LOW CARBON VEHICLES**

# **ARE HYBRIDS A VIABLE OPTION FOR THE WADI RUM PROTECTED AREA?**

12/9/09

Laura M. Strachan, PhD (ABD)

01-250-334-0048

### **QUESTION**

Will hybrid and/or electric vehicles be able a viable alternative for the Bedouin participants at the Wadi Rum Protected Area in Jordan?

### **INTRODUCTION**

On the eve of the UNESCO Nomination File's promising feedback, the current situation at the Wadi Rum Protected Area is extremely complex. Best efforts need to be put forward to remedy this situation for the betterment of the local communities and the environmental protection of the area.

There is mounting criticism from tourists to the Wadi Rum Protected Area that the vehicles used for jeep tours are surprisingly in a state of disrepair. Furthermore, visitors are shocked by underage drivers that are actively engaged in tourism/guiding activities inside the protected area.

One effort proposed to amalgamate conservation efforts with enhanced socio-economic benefits is the implementation of a hybrid/electric fleet of vehicles to replace the Bedouin owned vehicles currently used to transport visitors to desert locations.

### **BACKGROUND**

Dating back to the 1990s, the Zalabiah clan, residing primarily in Rum Village, were the first clan to transition from fulltime pastoralism to tourism related occupations. It is this recognition that is at the heart of today's controversy. There is a pervasive sentiment held by the Zalabiah that they are the rightful "owners" of the tourism industry by virtue of their location and history. Additionally, there is resentment associated with the appropriation of the Wadi Rum name by those, namely Zawaydeh clansmen, allegedly claiming that Ad Diseh is part of Wadi Rum. It is perceived by the Zalabiah that the Zawaydeh's interests should be elsewhere as they have income options such as agriculture and government employment that are not available to the Zalabiah.

The establishment of the Reserve's Visitor Centre in 2004 further fuelled tribal competition for tourism revenues. The management team's managerial objective was to disperse tourism benefits amongst the other

Bedouin clans. This perspective challenged Zalabiah sentiments. The current distribution of tours between the Zalabiah, Zawaydeh and the Swailheen fundamentally means that the Zalabiah's share of the proceeds has diminished. Add to this the large number of tourists bypassing the Visitors Centre to stay at the assortment of camps on the Ad Diseh side, the distribution of benefits has shifted and the Zawaydeh are now the recipients of the lion's share of the region's tourism revenues. This has contributed to strained relations.

## **ENVIRONMENTAL AND CULTURAL CONSIDERATIONS**

Hybrid and/or electric cars are more environmentally friendly when compared to the old, diesel consuming jeeps being used today. Their adoption would advance protected area mandates in a variety of ways:

1. Hybrid cars use the combination of a combustion engine that burns fuel and an electric engine that does not burn gasoline to operate, decreasing the amount of fossil fuel being burned.
2. More miles per gallon contributing to a dramatic reduction of fuel over time.
3. Hybrid/electric vehicles are substantially quieter than diesel engines.

If the environment was the only concern, the answer would be simple. But the dilemma is the intersecting of conservation with Bedouin culture. Therefore, the question is not whether or not hybrids should be used but rather whether or not the Bedouin will "accept" an alternative fleet? Cultural and social concerns need to be considered in collaboration with environmental protection strategies:

1. Past experience leads one to believe that the introduction of a new fleet of vehicles may be ill-received by the clans. The Hashemite Fund of Jordan provided a new fleet of desert vehicles for the WRPA but they were turned down by the CBOs. The fleet's base of operations is currently located in Rashdiyyah Village catering to a group located outside of the Reserve.
2. Electric cars will need to be recharged. The current electrical supply to the village is inadequate for local needs i.e. the November 2009 blackouts from increased consumption due to electrical heaters. If the fleet was to be housed at the WRPA, the electrical infrastructure may be adequate for nightly plug-ins. If not, alternative measures would need to be implemented such as upgrading current village infrastructure which would benefit the villagers and/or upgrading the VC supply.
3. At present the Bedouin are able to repair their own vehicles or hire a local mechanic. If hybrid/electric vehicles were to be brought in, this would change due to the technical advances employed by these types of vehicles. If housed at the VC, mechanics would need to be employed or the purchase of the necessary computer software would need to be distributed to local garages.
4. Considerations regarding the length of time an electric vehicle can run. Some jeep tours last five hours or more.
5. Considerations regarding the ruggedness of a hybrid/electrical vehicle to withstand extended usage in the desert.
6. Considerations regarding the implications for local private industry. Would a new fleet infringe upon Bedouin camp owners who operate their tours using their vehicles?
7. Does adoption of hybrid/electric vehicles mean "banning" of old vehicles? Or are they supplementary? This would increase the number of vehicles although attrition would occur with acceptance of the new technology.
8. How will Bedouins maintain their herds that graze in the Reserve without vehicles? At present they use their vehicles to check on their herds and the shepherds or to locate lost animals. Will the new fleet be available to them for such purposes?

## RECOMMENDATIONS

Based on my knowledge of the Bedouin and the problems that currently prevail, I offer the following recommendations:

1. Strong communication is needed to all relevant stakeholders with regards to the value/advantages for the adoption of hybrid/electric vehicles. This includes the WRPA's management team considering the possibility of the fleet being housed at the VC.
2. Ideas surrounding how this would be considered precedent setting especially for a Middle Eastern protected area.
3. Concepts pertaining to "environmental friendliness" will not win the Bedouin over. Rather, it is imperative to highlight how the adoption of hybrid/electric vehicles will help them save money in upkeep and fuel, will improve their image, reduce the amount of maintenance, enhance their business, etc. It is important to communicate the inherent "advantages" for Bedouin CBO members to adopt this type of technology. I could follow-up on this critical perspective.
4. Once the "advantages" for participation become obvious, I foresee all clans' willingness to engage in this new option. It may be best to target the Zawaydeh or the Swailheen first or both to get the ball rolling.
5. Two fleets will be needed to meet the needs of Operator 1 and Operator 2.
6. With the adoption of hybrid/electric vehicles, approximately 500 Zalabiah vehicles in Rum will no longer be needed not to mention those used by the Zawaydeh and the Swailheen clans. A reduction if not complete elimination would be anticipated as part of the adoption process. Incentives to facilitate this move will be an integral part of the transition.
7. Individuals with the most to lose will be the hardest to convince. For example with a new fleet one of the hurdles will be the number of times one's place in the rota materializes. It is currently perceived by those with multiple vehicles in the RTC rota that they are making more money because they rotate more frequently but according to my findings this is incorrect. If, for example, vehicles in the late 1990s rotated every day and now they rotate every four days their access is perceived to be greater but this is not true. In fact, the math indicates that the benefits are daily just as in the past. No one is further ahead in this regard due to the exponential growth of vehicles currently in the rota. This needs to be highlighted to those leery of change.
8. The adoption of a fleet of vehicles managed through the VC will generate greater equality between the CBO members while reducing the number of eligible CBO vehicles. This is not only environmentally friendly but especially advantageous to those who may not have had the wherewithal or the opportunity to own one vehicle let alone multiple vehicles in the past. Everyone will be on an equal playing field.
9. Due to the value/advantages associated with this technology and the implication this decision has for the WRPA's future, I believe that the decision of whether or not to adopt should not rest with a select number of high profile Bedouins. My investigation has revealed that a few tribesmen are making universal decisions based on their own economic advancement before those of the other clansmen. Due to tribal implications, there is an unwillingness to make these observations public. For this reason, I recommend that a new committee comprised of individuals from a broad cross section of the community/communities be organized to bypass established protocols in order to make decisions that are best suited to the advancement of the whole instead of an elite few. This committee could decide on the validity of hybrid/electric vehicles as an alternative based on the needs of the communities, environment and the protected area.

10. Due to electrical inadequacies and/or the high cost of battery replacement, other viable options may be 4 cylinder 4x4 vehicles or to retrofit the Bedouin vehicles to make them more environmentally friendly and cost efficient.

## **CONCLUSION**

If the environment was the only consideration, the decision to adopt a fleet of hybrid/electric vehicles would be an unequivocal yes. But socio-cultural precursors continue to impinge upon more contemporary advancements at the Wadi Rum Protected Area. A number of critical issues need to be addressed through the implementation of more inclusionary, participatory methods that will focus on the benefits of the communities at large.