

ECOTOURISM, NATURE CONSERVATION, AND DEVELOPMENT

**ECOTOURISM,
NATURE REIMAGINING JORDAN'S
CONSERVATION, SHOBAK ARID REGION
AND DEVELOPMENT**
aziza chaouni, ed.

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FOREWORD *yehya khaled & richard sommer*



yehya khaled

Director, Royal Society for the Conservation of Nature (RSCN)

Shobak Tourism Plan—New Product

When I was a child, I enjoyed eating apples produced by Shobak's farms, so the only thing I used to know about Shobak was that its farms produce nice apples. I grew up, joined the RSCN, and gradually started to learn more about Shobak—besides its apple farming.

I now know Shobak is located in a strategic position south of the Dana Biosphere, north of Petra, and west of the King's Highway. It stretches from high plateaux located at 1,500 m above sea level near the King's Highway to the east, and the desert plains of Wadi Araba to the west. It contains another castle in the great chain of Crusader

fortresses that stretches across Jordan. The stronghold, known as Mont Realis (Montreal), was constructed in 1115 CE by Baldwin I.

Shobak is also rich in biodiversity with its unique habitats; the RSCN's researchers recorded more than 145 plant species, 44 bird species, and 12 mammalian species living in 5 natural vegetation types. This prompted the RSCN to propose the establishment of a new protected area in Shobak in order to conserve its unique biodiversity and capitalize on its stunning landscape for ecotourism. This masterplan represents the planning strategies for the development of the Shobak protected area as a new ecotourism destination in Jordan. The masterplan was a result of a joint collaboration between the RSCN and the Designing Ecological Tourism (DET) research lab at the University of Toronto.

By implementing this masterplan, new generations will be able to encounter the richness of Shobak's agriculture, but also its history, biodiversity, and culture.



richard sommer

Dean, John H. Daniels Faculty of Architecture, Landscape, and Design, University of Toronto

I am very pleased to see this book come to fruition. Based on the work of Aziza Chaoui and a group of graduate students from the Daniels Faculty of Architecture, Landscape, and Design at the University of Toronto, conducted in Shobak, Jordan, the approach outlined in the book reflects our faculty's ongoing research and exploration into how new modes of environmental analysis, design thinking, and collaboration among scholars, industry, and both governmental and non-governmental organizations transform the role that architects, landscape architects, and urban designers can play in global problems of urbanization and develop-

ment. Chaouni and her group's work in Shobak specifically builds on her concepts of "desert tourism," and a series of design studios, research seminars, and related fieldwork she has undertaken in Morocco.

Among the essential contributions this book makes to the future of Shobak is an exhaustive documentation and creative analysis of Shobak's existing zones of tourism, built heritage, and landscape preservation. Correlated with this analysis is a set of ideas drawn from global case studies of exemplary eco-tourism sites and projects in arid climates. Site-based analyses and case study findings are brought to bear in ways that provide highly site-specific models of design and development. With conventional approaches to problems of this kind (referred to as "old method" in the book), preservation areas are isolated and understood as frozen in time—if only to justify the development and commercialization of adjacent and surrounding areas. Defying convention and political expediency, the "new method" recognizes that with regard to

natural systems and patterns of human use, geographic protections can only be relative, because the ecology of any landmass is dynamic and always subject to external forces. This work demonstrates, at various scales—from the geographic, to the architectural—that the design of ecological infrastructure, touristic and otherwise, requires modeling both the interplay of man-made and organic systems, and a very literal drawing and mapping out of a strategic approach to land and construction management, over time. I would draw your attention not only to the various charts, timelines, and network diagrams in the book that constitute clear design methodologies and implementation strategies (see the "social tools," "systems tools," and "building tools" in the Tool Catalogue, pages 54–57) but to the very specific ways that the deployment of the plans and projects are imagined through separate, but related processes of "organizing," "upgrading," and "building."

Finally, I want to speak to how this book, and the ideas and projects it

contains, would not be possible without the support and engagement of the Royal Society for the Conservation of Nature and many other interested agencies, communities, and individuals in Jordan. We are very thankful for their support, and look forward to continuing the fruitful work and partnerships documented in this book for other areas in the region. We undertake work of this kind at the Daniels Faculty to advance the art of planning and design for places that are often not well served by existing professional or bureaucratic interests. Yet, through this unique NGO-sponsored opportunity to travel, exchange ideas, and collaborate on research and projects, our faculty and students have had the opportunity to learn from being in the field and have drawn on the incredible experiences that myriad people have had with this territory. In this sense, while this book promises a better designed future for Shobak, Shobak now becomes a model for better designed futures elsewhere.



INTRODUCTION



INTRODUCTION aziza chaouni, chris johnson & tarek abulhawa



aziza chaouni
Assistant Professor, University of Toronto

I became acquainted with the Royal Society for the Conservation of Nature (RSCN) back in 2006 when I visited and studied their protected areas and ecotourism infrastructure in the context of a research trip sponsored by the Harvard University Appleton Travelling Fellowship. Jordan was the last stop of my journey across North Africa and the Middle East (MENA), and I was astonished by the groundbreaking work the RSCN has accomplished, such as the balance of nature conservation with the socio-economic development of local communities. The RSCN departed from the conservative approach towards nature preservation which I had encountered in other MENA countries throughout my trip, and introduced innovative methodologies to integrate both ecotourism and local economic growth within protected areas.

How did the RSCN tackle such a challenge, which appears at first glance unfeasible in a developing country whose last priority is the environment and whose land is mostly arid? They did this with the help of their autonomy to pursue and apply long-term strategies, test new approaches, and foster innovative collaborations. On the other hand, the RSCN is obliged to find external sources of revenue for its conservation efforts and ecotourism, along with its associated activities; however, this is the most obvious route. Income-generating activities are run by the RSCN branch called Wild Jordan, which proposes nature tours, lodging, and crafts produced by locals who used to draw their income from the protected areas.

The RSCN is very careful about the impact of ecotourism activities and infrastructure it has introduced within its seven protected areas so far: it caps the daily amount of visitors, limits trekking to guided tours on predetermined trails, and, most importantly, only builds low-impact ecolodges (like Feynan) in the Dana protected area. The RSCN's dedication to green design is embodied by their Wild Jordan building in Amman, conceived by Ammar Kammash, and which includes several sustainable

features, such as the use of recycled materials and solar energy.

While unique in the Middle East, the RSCN's goals and ambitions meet those of the Designing Ecological Tourism (DET) lab at the Daniels Faculty of Architecture, Landscape, and Design, University of Toronto. This school also strives to embrace a multi-disciplinary approach to ecotourism and its infrastructure through applied research projects. Through studio courses, site visits, and summer workshops, DET works with NGOs and governments aiming to develop new ideas and approaches to sustainable typologies of tourism.

In a collaborative effort, the RSCN and DET teams decided to question the process of delineating a protected area. Under the leadership of the RSCN's Yehya Khaled, Tarek Abulhawa, and Chris Johnson, both teams were given the opportunity to apply these questions to the Shobak region, which is being considered by the RSCN as an area of high priority for preservation. Located south of Dana, the RSCN's oldest protected area, and north of Petra, Shobak's magnificent arid and semi-arid landscapes, composed of mountains and rivers, could be easily utilized not only to attract tourists already visiting nearby

areas, but also to revive Shobak's depressed economy.¹

In the RSCN's past experience, local nature conservation efforts came before socio-economic betterment of local populations; therefore, even though the RSCN successfully integrated locals into its projects and significantly ameliorated their socio-economic conditions, it was still struggling with a feeling of extreme dissatisfaction among locals within the vicinity of its protected areas. Locals felt left out of the protected areas' creation process and of their ecotourism benefits. Furthermore, neither the short- nor the long-term benefits of the RSCN nature conservation actions were clearly understood. In such a context, the local population was not the ally and collaborator the RSCN wished it to be, but rather an antagonist it had to constantly manage. In the current context of the rising volatile political climate in Jordan, filled with more and more vocal demonstrations² and incessant changes in its members of parliament,³ a totally new approach towards protected areas is direly needed. Discussion between DET and the RSCN teams led to the hypothesis that the development of ecotourism in the zones around the protected areas, coupled with eco-awareness campaigns and programs

supporting locals' initiatives, should be a priority. In a second phase, an option would be that the protected area could become legally established with set boundaries and appropriate zoning. The protected area's integrity would be ensured not by an outside institution, such as the RSCN, but rather by the measures taken in the first phase of the masterplan; these being measures that empower local citizens to protect their natural heritage. In this unusual, non-deterministic phasing plan, protected areas are conceived as fluid, evolving entities, whose spatial and temporal sustainability is the result of the stewardship of citizens towards their environment. The social ecologist Helen Ingram and the executive director of the Blum Center for Developing Economies at UC Davis, Wendy Laird-Benner, stress the efficiency of people's networks versus formal institutions for effective enforcement and compliance with environmental regulations. Unlike institutions, these networks have the possibility to be more flexible, to respond faster to threats, and to be resilient to change in the face of sudden political or environmental developments.⁴ According to Ingram and Laird-Benner, these networks, "founded on face-to-face contacts and with sustained engagement,

transcend the influence of contemporary events and forge bridging ties across geopolitical, socio-economic, and cultural boundaries."⁵ Positive narratives that celebrate the contribution of people, and which envision an improved future, help sustain these networks and propel them into action, subsequently resulting in positive, ecologically sustainable outcomes.

Similar to the Sonoran Desert straddling the US/Mexico border that Ingram and Laird-Benner studied, the Shobak ecosystem's preservation faces many hurdles. Shobak's precarious political and economic landscapes, coupled with the negative experiences and perceptions in nearby Dana, are not propitious to an outside institution managing the protected area. Instead, focus should be brought to strengthening local actors and demonstrating to them the benefits of conserving nature. Following in the footsteps of the Sonoran Desert where, against all odds, significant environmental accomplishments were achieved thanks to "network weavers," the Shobak masterplan could introduce a new approach to conservation in the region.

The first efforts to develop Shobak into an emerging tourist destination took place in 2010 and targeted the rehabilitation of the Crusader castle of Shobak. Built in

1115 by Baldwin I, captured by Saladin in 1189, restored by the Mameluks in the 14th century, and then allowed to become dilapidated, the castle is perched on a picturesque mountain, its architecture blending with the white rocky landscape. Tourists on their way to Petra usually prefer to stop at the Karak Crusader castle and bypass Shobak.

The project is funded by the EU program Cooperation in Urban Development and Dialogue (CIUDAD) and involves the University of Florence and the Municipality of Shobak. If this initiative increased tourism by 23%, according to the CIUDAD, it is thanks to an exhibition of archeological findings,⁶ whose benefits to the local economy remain marginal; tourists do not pay any entry fee, and when they stop at the bare visitor's center, rarely do they buy anything from the dusty souvenir store and café.

Unlike the CIUDAD attempt, the masterplan for Shobak that this book presents has a holistic approach—the Shobak Castle being just a node within a heterotopic network of interventions. In fact, the masterplan centers around a participative approach, based on an in-depth site analysis and collaboration between experts and local stakeholders. The masterplan's

strategies not only directly benefit the local population, especially the primary target group (nomads), but also foster the emergence of “network weavers.” The masterplan has two implementation phases. Phase 1 focuses on capacity building, upgrading existing facilities and tourist infrastructure while introducing three key new components:

- The development of two trails and their facilities east of the protected area
 - The building of a viewing platform, which will introduce the panorama of Shobak to tourists, and mark the starting point of excursions
 - The building of a mobile ecolodge, which has zero impact on its site once packed
- Phase 2 focuses on developing the protected area zoning and furthering the involvement of locals in ecotourism activities.

The masterplan and its guidelines were developed by DET between January and August 2012 through a graduate research studio course which laid the groundwork for the masterplan. This event was thanks to a thorough site and case study analysis and a four-month summer research workshop which developed the masterplan and detailed the design of the three new components of Phase 1: two trail systems, a viewing platform, and a mobile ecolodge.

This publication presents the process and methodology which led to the masterplan's design. The dedication and passion of DET's summer student team was essential to the project: Keren Golan, Nick Roland, Mani K. Tabrizi, and Ladan Sharifpour, who have all been key players in the masterplan's conception and development. Some experts have also supported the projects with ideas and critical input, namely Dana Halasa, Tarek Abulhawa, Luna Khirfan, David Lieberman, and Muna Haddad, each of whom are contributing key essays to this publication related to themes seminal to the project, which include: ecotourism in Jordan, vernacular architecture in the Shobak region, and sustainable structures for arid climates.

The next step for this collaborative project is to test its new typology in situ and to investigate its evolution over time as it adapts to new conditions. By no means is the masterplan conceived as a static framework; rather, it encapsulates a set of ideal dynamics between nature and humans, geology and architecture, as well as ecotourism and socio-economic growth to be fostered in Jordan and beyond.



I first stood at the edge of the Shobak plateau about 15 years ago and remember vividly the stunning vistas of rugged mountains and colorful desert plains that stretched as far as the eye could see across Wadi Araba to the Negev. What I was seeing before me was a huge slice of the Jordan Rift Valley, which runs the whole length of the Kingdom from north to south; and which forms an integral part of the Great Rift Valley, the largest geological feature on Earth.

In tourism terms, the Shobak Mountains are strategically placed between the Dana Biosphere Reserve, the largest and most well-known ecotourism destination in the Kingdom, and Petra, the world-renowned archeological site and Jordan's most popular tourist destination. Yet, despite their proximity to these well-known sites and their stunning scenery, the Shobak moun-

tains and surrounding area remain largely undiscovered and "off the beaten track" for most tourists.

Under a USAID-funded ecotourism project, working in collaboration with the GEF Rift Valley Project, the RSCN has been pioneering a new strategy to create tourism linkages between the Dana Biosphere Reserve and Petra that will pass through the Shobak area and help to support socioeconomic development for local communities and the sustainability of the proposed new protected area. The Dana Reserve itself already attracts over 40,000 visitors a year and, as one of the gateways to the Dana-Petra corridor, the development of these linkages is also seen as a way to give added value to the Dana experience by offering incentives for tourists to stay longer in the area.

Key to this linkage strategy is the creation of long-distance, north-to-south trails, which will be designed to offer different experiences for different kinds of users, from ardent, long-distance hikers to Jordanian families out to enjoy the countryside. These trails and the corridor concepts have been adopted and developed by the University of Toronto team to become a major component of their masterplan for the Shobak region, as elaborated in this beautifully

presented book. Their in-depth physical and cultural analysis of the proposed corridors and their designs for the en-route accommodation facilities are presented within a cohesive tourism masterplan that pulls together all the threads of landscape, nature, culture, and tourism use under a single umbrella publication. This is the first time the RSCN has been able to present a tourism strategy in such an integrated and professional way and it should be seen as a model for the future.

But we must not forget that tourism in sensitive landscapes can be a "double-edged sword," bringing both social benefits and environmental damage. It is therefore vital that we get the planning and the management of the Shobak initiatives right. And at the same time, I also hope that in years to come many other people will be able to stand on that lip of the Rift Valley, as I did all those years ago, and be convinced that such wonderful landscapes should be protected.



Shobak is the most recently designated protected area in Jordan. Behind it lies an important part of the story of nature conservation in Jordan.

The story began in 2007, when the Royal Society for the Conservation of Nature received a grant from the Global Environment Facility (GEF) and the World Bank to implement one of the largest conservation projects in the country: the Integrated Ecosystems Management in the Jordan Rift Valley Project. A key goal of this project was to mainstream the principles of ecosystems management into the land-use planning and management in Jordan's economic and social hot spot, the Rift Valley.

Four protected areas were to be designated under the project. Three of these were successfully established, but due to factors of severe ecological degradation,

government mineral and water exploitation interests, and local community disputes over tribal lands and territories, the fourth one, Masuda, was to be abandoned.

In its pursuit of an alternative site to compensate for the lost protected area, the RSCN undertook a strategic assessment to identify an ecosystem worthy of conserving for its biodiversity and developing sustainable options for its resource use. Shobak emerged as the site most able to conciliate the gap in the national protected areas network. To approach Shobak, and considering the hard lessons learned in Masuda, the RSCN adopted a different process framework for the establishment of the promising protected area. This new approach is based on integrating local communities from stage one in the development of the various strategic scenarios of the protected area's conservation and development.

Ecotourism was identified and determined to be the key human activity which could serve as the mechanism to link effective nature conservation with sustainable local development efforts in Shobak. This time, ecotourism would be brought in through an extensive masterplanning exercise in which several dozens of local and international experts were involved. The making of the masterplan presented in this

book therefore signifies a new paradigm for protected areas development and management—a strategic new direction that is based on proactive planning, community participation, and institutional collaboration, collectively utilized to carve the future of protected areas in Jordan.

This effort would not have been successful without the partnership between the University of Toronto, represented by the Daniels Faculty of Architecture, Landscape, and Design, and the RSCN. The team was led by the great vision and effort of Aziza Chaouni and her fantastic team of researchers, who, with support from the RSCN's team, worked around the clock for almost a full year to develop this masterplan document as one of the most iconic products ever made for nature conservation and sustainable development in the country. I take much pride in presenting to our dear readers this valuable book, and would like to take the opportunity to express gratitude to all those who contributed to making it a reality—the RSCN, the University of Toronto, GEF, and the World Bank. Finally, thanks to the people of Shobak for allowing all of us to work with them and explore together a better future for their generations. Without them, this effort would have not seen the light of the sun.

NOTES (INTRODUCTION)

1. King Abdullah website announced that in 2008, 82% of women in Shobak were unemployed. Besides, the 2009 World Bank "Hashemite Kingdom of Jordan Poverty Update" report notes that the poverty incidence rate in Shobak is 72%—that is, 72% of the population receives less than minimum wage (100 JD per month). World Bank, Hashemite Kingdom of Jordan Poverty Update, 2009.
2. N. Pelham. "Jordan Starts to Shake," in *The New York Review of Books*, December 8, 2011.
3. I. Black. "Jordan's MPs Play Musical Chairs as the Arab Spring Rages Outside," in *the Guardian*. May 11, 2012.
4. Ö. Bodin and B.I. Crona, "The Role of Social Networks in Natural Resources Governance: What Relational Patterns Make a Difference," *Global Environmental Change* 19(2009): 366–74.
5. W. Laird-Benner and H. Ingram. "Sonoran Desert Network Weavers: Surprising Environmental Successes on the U.S./Mexico Border," in *Environment*, Jan-Feb 2011. Retrieved August 15, 2012: <http://www.environmentmagazine.org/Archives/Back%20Issues/2011/January-February%202011/sonoran-desert-full.html>.
6. The exhibition, called "From Petra to Shobak," was organized in 2011 by ENPI (European Neighbourhood and Partnership Instrument) and funded by the EU regional program.



AREA OF STUDY



AREA OF STUDY INTRODUCTION TO SHOBAK

This chapter provides a brief description of the following three zones of the Shobak study area:

1. The area delineated by the RSCN as a possible protected area, the Shobak Protected Area or SPA.

2. The areas immediately adjacent to the SPA: the area west of the SPA is sparsely populated by nomads; the area south of the SPA counts dozens of tourists camps; the area near the eastern edge of the SPA, between the King's Highway and the beginning of the Great Rift Valley escarpment, has 12 small urban centers and several abandoned stone villages; and the area north of the SPA is still wild and untouched.

3. The wider context of Shobak, which comprises the Dana Biosphere to the north and the Petra Archeological Park (PAP) to the south.

The site analysis chapter describes in more detail different facets of the Shobak region at the regional and local scales, including its hydrology, geology, fauna and flora, tribal composition, and existing tourist infrastructure.

Shobak Special Protected Area

The Special Protected Area of Shobak is located south of the Dana Biosphere, north

of Petra, and east of the King's Highway. It stretches from high plateaux located at 1,500 m above sea level near the King's Highway to the east, and the desert plains of Wadi Araba to the west. Shobak's drastic topographic variance is the cause of its numerous ecosystems (page 136) and geology (pages 113, 118, 138), which are among the key drivers behind its nomination by the RSCN as a special protected area. The RSCN currently has eight established protected areas, four under establishment, and six proposed. Shobak is the last site to be selected for protection. The "special protected area" status is a new strategy developed by the RSCN to create a transitional phase before establishing a protected area.

Shobak Region

Shobak is a region located 190 km south of Amman, composed of several small villages whose number has fluctuated over the course of its history. These villages supplied caravans and grew wheat, until the Crusaders set up a fortress to help control the crucial Damascus to Cairo trade route that ran on the plain below. The etymology of Shobak is derived from the Arabic word "shabaka," or net, and refers to the intertwining branches of the

lush forests that used to cover its lands. Droughts, climate change, and depletion of groundwater resources have dramatically affected the area, which has lost a large percentage of its green cover. Yet small-scale subsistence agriculture, irrigated with spring water, remains widespread in the area.

Shobak has a diverse social landscape: it is inhabited by four tribes dispersed among eight newly built villages situated on the plateau and nomad camps (page 164). There are fifteen main communities in Shobak. Of these, seven are in Asha'ari, four are in Husseinieh, and one community represents Qadissiyeh. Population density is low for the most part (though it becomes medium density in residential areas). Population density is highest in Qadissiyeh. The 2004 census counted 10,869 inhabitants in Shobak, with 535 in Asha'ari, 8,300 in Husseinieh, and 6,933 in Qadissiyeh.

According to the 2004 Jordanian Department of Statistics (DOS) figures, average family income in Shobak is around 6,200 JD per annum, with 9% of the population living in poverty. On average, this corresponds to two income earners per household with average salaries of 260

JD/month. Several Shobakis have also been trying to develop some small household agricultural activities to help cover increasing living costs and losses in employment opportunities.

With the exception of a few nomads living in tents, most Shobakis live in the villages. The villages' houses all have a concrete post and beam construction with brick infill. The beautiful stone-built, traditional villages of the area are abandoned today. Since they lacked easy access to the King's Highway and modern amenities such as running water, electricity, and sanitation, these villages were deserted. Traditional villages in Shobak are scattered along the escarpment right below the plateau and are usually located near springs. The stone dwellings of these villages protrude from the mountainside in a chain form following the contour lines of the mountainside, and caves are embedded in the soft layer of limestone on the side.¹ Some dwellings are built into the bedrock of the mountain, enclosing one side of a pre-existing cave, fully integrating themselves to their context. Lintels and beams were traditionally built using Arar (juniper) wood, which can carry large loads.² Interestingly, some of the agricultural terraces near the villages are still in use today.

Shobak is already popular among trekking groups, which use its north-south trails connecting Dana to Petra, and its east-west trails which cross Shobak's wadis. These tourists usually set up their own tents for the night or stay in the camps located in the northeast and south of Shobak. However, Shobak's main draw is its Crusader castle, which receives around 3,000 visitors per year,³ a number that pales when compared with Petra, which welcomed 629,864 tourists in 2011.⁴

The Shobak Castle is part of a great chain of Crusader fortresses that stretches across Egypt, Jordan, and Syria.⁵ The stronghold, known as Mont Realis (Montreal or the Royal Mount), was constructed in 1115 CE by Baldwin I. The castle suffered numerous assaults by Salah Eddin (Saladin) before it finally fell to him in 1189. Shobak Castle was then restored by the Mamluks in the 14th century. The castle is perched on top of a small hill northeast of the town of Shobak.⁶ Inside the fortress, there are two churches, ruins of baths, cisterns and rainwater pipes, archways, and millstones for pressing olives. Moreover, there are stairs cut into the rock that lead down to a spring below the castle. The shaft has 375 steps and is one of the deepest wells ever cut by Crusader forces.⁷ In 2010,

an Italian mission, funded by the EU program ENPI (European Neighbourhood and Partnership Instrument), initiated archaeological searches and the rehabilitation of the castle, with the aim to increase tourism. Based on interviews with local guides and tourists, no significant results have been witnessed yet. In fact, the castle's current state of disarray and lack of interpretative material, coupled with its derelict visitor center and run-down accommodations, exacerbate its lack of attractiveness. Given that large numbers of tourists visit nearby Dana and Petra each year, Shobak's potential is clearly underexploited. One of the key challenges of the masterplan is to attract nearby tourists and introduce them to the natural assets of Shobak while keeping control of the impact of tourist activities and preserving the natural environment. Another major challenge of the masterplan is to give Shobak a position which will stand out amid Dana's long-standing popularity and Petra's uncontested appeal. In order to better grasp Shobak's masterplan's potential and possible repercussions, a description of Shobak's two adjoining protected areas, Dana and Petra, seems necessary.

Shobak's Wider Context

Petra Archeological Park

The Petra Archeological Park (PAP) covers a 264,000-square-meter area within Wadi Musa and was listed as a UNESCO World Heritage Site in 1985. The PAP encompasses a breathtaking landscape of pink-hued rock mountains, the focus of which is the amazing ancient Nabataean city of Petra. In August 2007, the park was announced by virtue of a new bylaw as an autonomous legal entity with separate financial resources, whereby the management and maintenance of the park is funded through an allocation from the state; foreign aid, grants and donations; a percentage of the park's entrance fees; and fees from services provided inside the park.

The monuments of Petra are under several forms of attack, not least from erosion by the wind, which carries sand particles from the crumbling sandstone rock and corrodes the lower sections of the facades of the tombs and funerary vaults; and by water, which infiltrates the rock by capillary action and enables vegetation to grow in the interstices and to cause fracturing of the rock or even rockfall. Nature, however, is not the only aggressor; human activities also play a preponderant role in the deterioration of

the site. The integrity and conservation of the site are seriously threatened by the uncontrolled flow of tourists, the lucrative sideline tourism activities, and numerous souvenir stalls. The vicinity of the site is also rapidly deteriorating, namely Wadi Musa, a bustling village through which one passes before reaching the PAP. Wadi Musa showcases uncontrolled urban development and buildings erected in areas zoned as "non ædificandi." In 2011, ATC Consultants developed a 20-year strategic masterplan for the PAP and its surrounding buffer zones.⁸

The masterplan guides planned development of the Petra region over the next 20 years for the benefit of the local population and the protection of the archeological site. It envisages a long-term strategy aimed at increasing the boundaries of the PAP and involving the local population and authorities in the management plan of the site. The masterplan also puts forward a number of proposals for action such as the creation of a regional animal park with activities like camel races and horse trekking. The strategic masterplan for the region also provides a guide to preserving its archeological, ecological, and cultural resources while planning for the needs of a

fast-growing population. So far, most measures of the masterplan have begun to be implemented. The surplus of tourists in the PAP could possibly be relieved if Shobak is developed as a new tourist destination.

Dana Biosphere Reserve⁹

The Dana Biosphere was established in 1989 and is Jordan's largest nature reserve, covering 320 km² of stunning landscapes along the face of the Great Rift Valley. It sweeps down in a series of mountain ridges, from the 1500-m-high plateau near Qadisiyeh to the desert plains of Wadi Araba. Dana Biosphere Reserve is the only reserve in Jordan that comprises the four different bio-geographical zones of the country: Mediterranean, Irano-Turanian, Saharo Arabian, and Sudanian penetration. Hence, it is the most diverse nature reserve in Jordan in terms of habitats and species, hosting several vegetation types, including the Phoenician juniper, evergreen oak, sand dunes, acacia, and rocky sudanian, among others. It is also home to the southernmost remaining forest community of Cypress *Cupressus sempervirens*. More than 800 plant species can be found within the reserve, three of which have only ever been recorded in Dana and nowhere else in the world.¹⁰ Moreover, Dana supports a wide variety of wildlife, including many rare

species of plants and animals. It is home to several globally threatened species of birds and mammals, such as Syrian Serin *Serinus syriacus*, Lesser Kestrel *Falco naumanni*, Blanford's Fox *Vulpes cana*, and Nubian Ibex *Capra nubiana*. The largest breeding colony in the world for Syrian Serin is located in Dana, while the Lesser Kestrel is also found to breed in the area.

In 1994, funded by the Global Environment Fund (GEF), the RSCN took pioneering steps in its attempt to conserve the precious biodiversity in Dana, putting together the first protected area management plan in Jordan, and making Dana Biosphere Reserve into a model of integrated conservation and socio-economic development. This plan set objectives, strategies, and priorities that ultimately seek to find a balance between protecting Dana's natural wonders and meeting the needs of local people. This strategy is mostly based on the concept of zoning, defining areas where certain activities can or cannot happen, and allowing for grazing and recreation zones. Following this approach, Dana became the first site in Jordan in which responsible tourism began taking place. In 2009, a USAID fund initiated the rehabilitation of part of the old village of Dana located at the entrance of the reserve,

whose inhabitants have vacated to move closer to the road. Even though the project faced numerous local contentions and discontentment, it is nearing completion: the rehabilitated village's stone houses will soon accommodate amenities for both villagers and tourists. If the project's dual ambition to avoid creating a "ghost" village catering to tourists only and to establish guidelines which will safeguard the architectural integrity of the village are laudable, the locals' reticence, caused as much by the late involvement of local communities in the Dana Biosphere activities as by inter-familial rivalries, might hinder the project's implementation and global vision. Finally, despite Dana's protected area management plan and the RSCN monitoring efforts, numerous threats to its natural environment still persist. For instance, major threats include overgrazing, woodcutting, and hunting, mainly of Ibex and Chukar.

Challenges Facing Shobak Protected Area

The local residents of Al-Shobak and the visitors from the different governorates use the area. In addition, there are many interests in the location, posing new future challenges to its management. In this part, we will present the challenges, according

to the size of their expected impact on the location, vitality, and coordination of their natural pattern and biodiversity.

Mining¹²

Shobak lies within the future interests of the Authority of Natural Resources to explore manganese and copper. Copper is expected to be found at various depths as the region consists of four types of rocks: First, sandy mountains, mostly consisting of mica minerals, quartz, and feldspar; this gives them a porous nature.

In addition, there are basalt mountains, igneous rocks that contain many minerals, including olefin, and feldspar—which are hard rocks that do not retain soil, and hence life. So, if decomposed these rocks become ready for germination since they contain some important elements for planting. Third, there are limestone mountains, which contain minerals like dolomite and calcite, which give them a porous surface. Thus, this is the poorest type of mountains in terms of containing water and supporting plants.

Finally, Shobak contains some rhyolite rocks, which are rich with silica and are not considered among the significant rocks in the region.

The mining activity of the Natural Resources Authority is a big threat to the

sustainability of different ecosystems. There are mining activities in the area of Um Al Amad near Shobak, and most of the region falls within the outline of future mining activity, a dilemma which requires serious consideration in order to find effective solutions.

Hunting¹³

One of the biggest challenges facing the management of the site is that most of the local hunters live either in the Shobak area or in the villages surrounding the site. During their hunting trips, most hunters target many kinds of birds for the purposes of fun and food, but what attracts them even more is the presence of the caribou, which is one of the most challenging species to hunt. This increases the hunters' pleasure in chasing it, and they use multiple methods, including blockades, as is the case in Al Hadas Valley. Ten hunters were seen in the study site. The area contains another group of hunting animals, including porcupine, hare, and hyrax.

Hunting has multiple negative effects on the fauna biodiversity and may lead to the extinction of many species if no action is taken to reduce it. These hunting activities have affected the endangered Arabian leopard in the area of Shobak. In addition, they have an indirect impact on

floral biodiversity through logging, cracking branches, and changing the natural pattern of the site through the construction of hiding houses.

Tourism

The wadi valleys represent a destination for many foreign tourists who like walking. Most of the tourism in the region relies on the availability of guides, mostly from outside of the location. The journey starts from Feynan, north of the study location, or from Petra, south of the location, reaching Bros Valley, where tourists can camp. The journey continues through the valley, reaching Shobak.

Wadi Al Sakakeen is also a destination for many visitors due to its rugged topography, making it a challenge for many of the visitors to climb. Tourism is not limited to the western areas; some activities extend from the eastern regions through the valleys up to the area of Wadi Araba, and then proceed to Feynan or Aqaba in the south.

Non-environmental tourism affects the location, as it may lead to damage through waste disposal, impacts on biodiversity, pollution of water resources, and damage to vegetation through logging.

Grazing

Effects of camels and cattle grazing are obvious in the upper eastern areas of the

studied location as well as the western areas of Wadi Araba. Here, it should be noted that despite the presence of traces of grazing, this does not cause a threat or challenge if the location was established as a natural conservation area. Compared with the location of Mount Masuda, the site only suffers a little grazing.

In addition, the rough terrain and the fact that most families in the region of Al-Shobak work in government departments have had a significant impact on the health and vitality of the vegetation, which was obvious in the dynamic plant patterns. On the other hand, the grazing—within an accepted level according to the region's capacity—has contributed to the natural regeneration of acacia shrubs, especially along the western boundary of the location. This has had a significant impact on increasing the representation of acacia, and thus has enriched the area's biodiversity as a whole.

Logging

The team has noted the presence of logging impacts, but these were confined to the hunting areas, as trees were used by hunters during their camping as free sources to cook food. Some logging activity has also been observed in the southeastern areas of the location, especially

for juniper, oak, and broom plants. The study team believes that logging is not considered a major threat faced by the management of the reserve. Yet, it needs a detailed study to explore where it has spread and its causes, as well as a plan of action to ensure its reduction.

Non-Endemic Species

Some of the plant species introduced to Jordan were recorded in the study location. They are characterized by their ability to adapt and live in dry and arid conditions and to quickly spread. However, the size of the communities of these plants is not a real threat to the environmental system or the native species that were recorded. An example of these species is the peace plant.

NOTES (AREA OF STUDY)

1. A. Kammash, *Notes on Village Architecture in Jordan*, in *Arabesque*, June 1995.
2. A. Kammash, *Notes on Village Architecture in Jordan*, Lafayette: University Art Museum, University of Southern Louisiana, 2006.
3. DET interview with Shobak Tourism Authority, February 2012.
4. Retrieved September 11, 2012: <http://petranationaltrust.org/ui/ShowContent.aspx?ContentId=170>.
5. N. Faucherre, "La forteresse de Shawbak (Crac de Montréal). Une des premières forteresses franques sous son corset Mamelouk," in *La fortification au temps des Croisades (Actes du colloque Parthenay 2002)*, edited by N. Faucherre, J. Mesqui, and N. Prouteau, Rennes: Presses Universitaires, 2004, pp. 47–65.
6. M. Rugiadi, "Il palazzo ayyubide a Shawbak," in *Da Petra a Shawbak. Archeologia di una frontiera. Catalogo della Mostra*, edited by G. Vannini and M. Nucciotti, Firenze: Giunti Editore, 2009.
7. R. Brown, "Shaubak," in *Archaeology of Jordan: Field Reports Sites L–Z*, edited by D. Homes-Fredericq and J.B. Hennessy, Leuven: Peeters, 1989.
8. Retrieved September 11, 2012: http://www.aslacolorado.org/wp-content/themes/aslaco/images/awardentries_2011/Planning_Petra_FS4.pdf.
9. Retrieved September 15, 2013: <http://www.rscn.org.jo/orgsite/RSCN/HelpingNature/ProtectedAreas/DanaBiosphereReserve/tabid/93/Default.aspx>.

10. Retrieved September 15, 2013: www.rscn.jo.org.

11. Ibid.

12. Royal Society for the Conservation of Nature (RSCN) Search and Surveys Section, "Rapid Assessment Survey for Shobak Area," Unpublished, May 2011.

13. Ibid.



ESSAYS



LESSONS FROM PETRA *Luna Khirfan*



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Petra's archeological ruins have been inscribed on the World Heritage List of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) since 1985. They have also been listed among the 2006 "New Seven Wonders of the World," and have been included among the *Smithsonian* magazine's 2008 list of "28 Places to See Before You Die." Nationally, Petra has earned the national epithet "the oil of Jordan" due to its contributions to the country's gross domestic product (GDP). According to the National Tourism Strategy 2011–2015: "Tourism expenditure reached more than 2.423 billion JD, which contributed 12.4% to the national GDP." Petra's contribution is indeed significant considering that its entry fees stand at 50 Jordanian Dinars per tourist per day (approximately \$70 USD), and consider-

ing that it attracted over 629,000 visitors in 2011, of which more than 508,500 were foreign tourists.¹ When one considers that the runner up, which is the near-intact Greco-Roman ruins of Jerash in the north of Jordan, received less than half the arrivals at Petra for the same year (241,900 tourists, of which 179,700 were foreign tourists), then Petra's role as the primary tourist attraction of Jordan is firmly confirmed. But how do these international recognitions and national contributions to Jordan's GDP manifest at the local level? What planning measures are the Jordanian authorities adopting to ensure the sustainability of Petra as the country's primary attraction? And, most importantly, what lessons may we extrapolate from planning Jordan's primary attraction for the benefit of developing other destinations around Petra, such as Shobak, and beyond?

Since its introduction in the Bruntland Report in 1987, the term "sustainability" has received many definitions, but among tourism planners, it has been established that sustainability "is not necessarily about preservation, but is more about managing and controlling change."² Sustainability in tourism planning refers to a set of planning strategies that essentially consider

this heritage as a capital resource, and ensure that future generations will both enjoy and benefit from its tangible and intangible elements.³ Accordingly, these planning strategies account for three critical components: namely, the site, the tourists, and the local community.⁴ Parallel to the strategies for each of these components, objective indicators should be effectively employed in order to guarantee effective management of change through monitoring, assessment, and adaptation.⁵

The Jordanian authorities have indeed sought to address the management of the tangible heritage of Petra through historic preservation measures and legislative arrangements. For example, there are continuous efforts through research and practice that seek to counter the weathering of Petra's sandstone facades and to mitigate its causes. But it is administratively that the Jordanian authorities seem to place most of their efforts. Since the establishment of the Petra Regional Council in 1995, several plans, initiatives, and bodies have been created, ending more recently in 2009 with the establishment of the Petra Development and Tourism Regional Authority (PDTRA). The latter controls the entire Petra Region (755 km²), including

the Petra Archeological Park, and enjoys independent legislative authority within the park's boundaries. Furthermore, since 1968, several management plans have been proposed for Petra concurrently with indicators in order to conserve its monuments such as those that focus on hydrology and the channeling of rainwater so as to decrease the weathering of the facades. Also, there have been at least three carrying capacity studies to determine the limits of acceptable change and thus monitor the numbers of tourists at Petra's monuments. This emphasis on Petra's physical fabric continues to this day with new initiatives such as the "Risk Mapping Project" at the Petra Archeological Park, for which the UNESCO office in Amman invited me among a select group of experts throughout 2011–2012 to review the development of the various criteria.

These strategies to protect the tangible heritage of Petra, primarily its monuments and sites, stand in stark contrast to the other two components: the tourists and the host communities. The needs of the visitors can be met through strategies that ensure a positive tourist experience whether by providing tourism services, interpretation, and signage, or proper footpaths and facilities. Since his "discov-

ery" of Petra in 1812, the Swiss Orientalist Johann Ludwig Burckhardt reintroduced this rose-red city to the Occident, though during the 19th and early 20th centuries, tourism was fairly limited due to the difficulty of reaching Petra and the antagonism of the local tribes towards foreigners. The 1920s witnessed the establishment of the Hashemite rule over Jordan, and also the setting up of the Thomas Cook Camp, which attracted rich European tourists. As the Hashemite rule in Jordan stabilized over the subsequent decades, it developed better road networks across the country, while during the 1970s and 1980s additional accommodation services were constructed in Petra. Consequently, accessibility to Petra increased and tourists' numbers surged until Petra gradually, yet indisputably, assumed its position as Jordan's primary tourist attraction. Throughout, the five plans put forward since 1968 have systematically prioritized tourism development and sought to increase tourists' numbers and their length of stay in Petra. Tourist surveys would ideally provide clear indicators of the success of such strategies and the level of satisfaction among tourists through the use of measurements such as the value for money of tourist attractions

and assessments of the levels of various tourist services. In the absence of such studies, however, a review of travel blogs provides an alternative method to gauge the perceptions of tourists. Such online sources largely reveal tourists' fascination with Petra's archeological ruins, but also their dissatisfaction with the entry fees compared to the level of available services. For example, the *510 Places* blog lists the entry fees for all of the New Seven Wonders of the World and concludes that Petra's are exorbitant in comparison to the other six sites—almost double the fees of the next most expensive site.⁶ Likewise, in the *Lonely Planet* blog, one tourist commented: "The government is ripping everyone off with the entrance to Petra—only a year ago it was JD21 to get in—now it's JD50! No student discounts... That's close to £50. I have travelled to 80+ countries and nowhere on earth does an attraction cost anywhere near this." In fact, some commentators on this blog go as far as offering other travelers advice on how and where to resell their three-day passes.⁷

Lastly, but most importantly, the strategies that address the needs of the local communities seem to be the most controversial among Petra's planning initiatives. Ideally, planning strategies that aim to