

Protecting Libya's Archaeological Heritage

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Abstract Libya's archaeological heritage is truly spectacular, comparatively little studied and hugely under threat. Following an extended period of isolation, improvement in Libya's relations with the rest of the world and a rise in the price of oil have stimulated a huge amount of development in the country, especially in the hydrocarbon and infrastructure sectors of the economy. With a rapidly growing population, and expanding youth unemployment, the Libyan government is attempting to develop a new way forward for its society and economy. Archaeology and heritage have not traditionally been high on Libya's agenda. The custodian of Libyan heritage, the Department of Antiquities, has been poorly supported by the state (perhaps in part relating to postcolonial Libya's ambivalent feelings towards its past) and is now badly positioned to deal with the nature and scale of development threats in the cities, the agricultural zone, and especially the desert where the greatest number of heritage assets are located. Most major development projects in these areas and elsewhere have been undertaken with little or no archaeological impact assessment, monitoring or mitigation activities, with unfortunate consequences for buried and standing archaeological remains. There are some encouraging signs of a sea change in the state's attitude to archaeology, heritage, conservation and tourism.

Résumé Le patrimoine archéologique libyen est absolument extraordinaire, relativement peu étudié et gravement menacé. Après une période prolongée d'isolement, l'amélioration des relations entre la Libye et les autres pays du monde ainsi que l'augmentation du prix du pétrole ont stimulé un haut niveau de développement dans le pays, en particulier dans les secteurs économiques des hydrocarbures et des infrastructures. Compte tenu de l'accroissement rapide de sa population et de l'augmentation du chômage parmi les jeunes, le gouvernement

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libyen essaye à présent de trouver de nouveaux modes de développement social et économique. L'archéologie et le patrimoine n'ont traditionnellement pas fait partie des priorités du gouvernement libyen. Le Département des Antiquités, chargé de la conservation du patrimoine libyen, a reçu peu d'aide de l'État (peut-être en raison, du moins partiellement, des sentiments ambivalents de Libye postcoloniale envers son passé) de sorte qu'il se trouve actuellement incapable de gérer la nature et l'ampleur des menaces liées au développement, dans les villes, les zones agricoles et particulièrement dans le désert, où se trouvent la plupart des richesses patrimoniales. Dans ces régions et ailleurs, la plupart des projets de développement ont été entrepris avec peu ou sans mesures d'évaluation de l'impact archéologique, de surveillance ou d'atténuation, ce qui a eu un effet dévastateur sur les vestiges archéologiques enfouis ou hors sol. Toutefois, des signes encourageants annoncent un profond changement dans l'attitude de l'État envers l'archéologie, le patrimoine, la conservation et le tourisme.

Keywords Archaeology · Libya · Heritage · Development · Italian colonial rule · Department of Antiquities

Introduction

The splendours of Libya's archaeology, especially the ruins of Graeco-Roman cities on the Mediterranean coast such as Cyrene in the east (Cyrenaica) and Lepcis Magna and Sabratha in the west (Tripolitania), and the extraordinary rock art of the deep Sahara, have attracted the admiration of European travellers since the eighteenth century (Wright 2008; Fig. 1). Major excavations (though sometimes little more than clearance operations) were undertaken during the period of Italian colonial rule, 1911–1942 (Munzi 2007). Further work was undertaken after World War II during the British Military Occupation in the 1950s and the rule of King Idris in the 1960s, most notably by Richard Goodchild, the Controller of Antiquities for Cyrenaica. His work, especially on classical urban and rural settlement, attracted considerable scholarly attention as well as, in the case of the great classical cities, tourist visitors (Reynolds 1976). The seizure of power on September 1, 1969 by Colonel Muammar Ghaddafi brought some 30 years of strained relations with the West, culminating in trade embargoes in the 1990s. Tourist visits slowed to a trickle. For some 15 years after the revolution, the state antiquities service (the Department of Antiquities) and archaeological departments in universities laboured within a political climate in which government propaganda tended to represent the great classical cities as the visible remains of a Roman colonialism on a par with the Italian colonial occupation of 1911–1942. It is true that some Italian archaeologists working in Libya in the Fascist era did draw analogies between the glories of ancient Roman and Italian colonialism (Mattingly 1996), yet Septimius Severus, one of the greatest Roman emperors, was a citizen of Lepcis Magna, and “Roman” cities in Libya were as multicultural as any other cities in the Roman empire, and dominated by a Libyan population. Meanwhile, however, although the university archaeological curricula formally dealt with the full span of Libyan archaeology—prehistoric, Punic, Greek, Roman, Islamic and Ottoman—university training in classical archaeology remained the safest pathway to archaeological employment in universities and the state



Fig. 1 Libya, showing the principal regions and sites mentioned in the text

antiquities service. The period has also witnessed tremendous economic growth stimulated by the rush for oil, with some of the most conspicuous developments located in archaeologically sensitive areas. Foreign archaeological missions, Italian, British, French and (until 1981) American, in particular, were able to continue to undertake fieldwork throughout this period. In the British case, this has been supported especially by the Society for Libyan Studies, a learned society founded with fortunate timing in 1969 shortly before the September 1 revolution and funded since then partly by member subscriptions and largely by an annual grant from the British Academy.

The opening of Libya's doors to the world and particularly to the West in the early twenty-first century has now stimulated a huge amount of development, especially in the hydrocarbon and infrastructure sectors of the Libyan economy, resulting in a veritable “gold rush” of over 100 oil companies and innumerable other companies from all over the world wanting to do business with Libya. With a rapidly growing population (there were fewer than one million Libyans in 1951, the year of Libyan Independence, compared with the present-day population of some six million), the Libyan government is attempting to develop a new way for its society and its cash-rich but job-poor economy on the back of this investment rush. Archaeology and heritage have not been high on Libya's agenda, taking second place to the development of the state. The Department of Antiquities has been poorly supported for countless years and is impossibly positioned today to deal with

the threats to the country's archaeological sites and monuments posed by a veritable tsunami of development—in the cities and towns, the agricultural countryside, and the desert. In this short paper, we sketch out the nature and scale of the threats to Libya's archaeological heritage, the structures in place to deal with them, and the choices facing the Libyan government and population regarding the protection of the archaeological past for future generations, Libyan and tourist, to enjoy and learn from.

Heritage Threats

Libya is a vast country, the size of Western Europe, and most of its six million inhabitants live in the better-watered Mediterranean littoral. Because rain-fed agriculture is possible in most of the coastal strip apart from where the desert meets the sea in the Gulf of Sirte, it has also been the primary zone of settlement for millennia, and most of the major classical ruins are in this zone, as is most new development. The period after 1969 has seen tremendous growth and extraordinary change, with some of the most conspicuous developments located in archaeologically sensitive areas. In Tripolitania, the coastal plain and adjacent Gebel uplands, land once dominated by the three great cities of Lepcis Magna, Sabratha and Oea (Tripoli), are now experiencing unprecedented growth, placing huge pressures on the ancient sites and suburbs and on countless unrecorded sites along the coast and in the immediate hinterland. An identical situation exists in the Gebel Akhdar, the “Green Mountain” of northern Cyrenaica, dominated by the coastal cities of the “Pentapolis,” the five Greek colonies of Euesperides (the first Benghazi), Tauchira (modern Tocra/Agoria), Barce, (Al-Merj), Ptolemais (Tolmeita) and Cyrene (Shahat). In both regions, the major ancient sites, and the innumerable small farms in their hinterlands (e.g., Mattingly 1995), are under threat from an array of development work that includes water pipelines, construction schemes for urban housing, new universities and schools, agricultural projects, desalination plants, power stations, power lines, roads, and railways. The development of the modern settlements of Al-Khoms around Lepcis Magna and Shahat south of Cyrene are but two prominent examples of direct damage and destruction of heritage assets caused by urban expansion. This is particularly evident at Cyrene, where the unplanned growth of Shahat has destroyed an exceptionally rich necropolis to the southwest of the ancient city (Fig. 2).

Immediately outside the capital city Tripoli, a tourist development and new housing for the expanding expatriate population are threatening the destruction of archaeological sites along the coast. At Janzur, for example, a local schoolteacher has recently identified a hitherto unknown ancient settlement containing at least six large amphora kilns (Fig. 3), traces of buildings and a possible harbour. At nearby Gargaresh, satellite images indicate the presence of a possible anchorage, a rock-cut channel and a number of rock-cut chambers, all being damaged by housing development. A significant number of the Graeco-Roman settlements identified along the Tripolitanian coast between Sabratha and Lepcis Magna have largely been built over, and locations such as bays and inlets with protective reefs where similar settlements are likely to have existed are now greatly sought after for touristic developments. One of many problems related to the rapid growth in car ownership is the development of roadside cafes, for example along the coast road between



Fig. 2 An example of the impact of unplanned housing development on the ancient cities: New Shahat (formerly part of the south east necropolis of ancient Cyrene) in 2009, with stone coffins and quarries in the foreground (photograph by Paul Bennett)



Fig. 3 A complex of amphora kilns located on a substantial tourist development site at Janzur, 6 km east of Tripoli. The site, discovered by Dr. Chris Preece, also contains a possible harbour, at least two other kilns and two buildings (photograph by Paul Bennett)

Benghazi and Tolemais. Some of the new developments appear to have been deliberately located near archaeological sites to benefit from the “free” source of building stone that they represent (Fig. 4).

In Benghazi, the second city of Libya, a number of archaeological sites have been damaged or destroyed by recent development in the central part of the city, and many more sites are under threat in the suburbs (Bennett and Buzaian 2006). An example of these to the east of Benghazi is a remarkable series of sinkholes in the *karst* limestone collectively forming the legendary “Gardens of the Hesperides,” which contained the golden apples given to Hera by Ge on the occasion of her marriage to Zeus, and the site of River Lethe, an underground river whose waters were drunk by the souls of the dead to forget all they had ever done, seen or heard in life (Goodchild 1962; Fig. 5). On the coastal plain to the east of Benghazi, particularly near Tocra, new branches of the Man-Made River (a massive construction project that has been described as the largest engineering programme anywhere in the world in the twentieth century, by which fossil water found at depth in the Sahara as a result of oil exploration was piped to the northern cities and farms in the 1980s and 1990s) are presently being carved through a landscape where there are large numbers of mostly unrecorded Greek and Roman farms, with no impact assessment or archaeological monitoring (Fig. 6). Once the pipelines and storage tanks have been established, farming practices in these areas will intensify, threatening the survival of an even greater number of unrecorded remains.

Not all the problems affecting the great tourist sites are generated by development. One of the greatest natural threats is coastal erosion. In Tripolitania, parts of Sabratha and the Villa Selin near Lepcis Magna, for example, are at threat from the sea. At greater risk is the ancient harbour of Apollonia in Cyrenaica, where



Fig. 4 A roadside cafe near Tocra, almost entirely built of stone quarried from a nearby *gasr* (a Roman-period fortified farm; photograph by Paul Bennett)



Fig. 5 Sinkholes in the *karst* limestone east of Benghazi. These remarkable features, often filled with lush vegetation, were probably the legendary “Gardens of the Hesperides,” and the Greek city Euesperides may have been named after them. The sinkholes are under great threat from suburban development (photograph by Andrew Wilson)



Fig. 6 A section of a main branch from the Man-Made River, feeding farms in a rich archaeological landscape between the Jebel and the sea near Tocra (photograph by Paul Bennett)

in the last 50 years, erosion of a protective rock wall has opened the harbour up to storm events, threatening the long-term survival of one of the ancient world's most complete submerged harbours. Coastal erosion is also occurring at Ptolemais near the ancient harbour. Dramatic evidence for erosion by the sea exists at Tocra (Bennett et al. 2004), where a complete section through the ancient city can be seen on the foreshore carved by wave action (Fig. 7). Nearly 40 m of the city has been lost to the sea in the past 35 years.



Fig. 7 Part of the archaic city wall of the ancient city of Tocra exposed by coastal erosion (photograph by Paul Bennett)

The threats to the great coastal cities are all too visible, but some of the greatest destruction to Libya's archaeological heritage is taking place away from the coastal zone. On the desert margins, the “pre-desert” of both Tripolitania and Cyrenaica south of the Gebel hills is an extraordinary wealth of ancient farm sites, most of Roman date (Fig. 8). An Anglo-Libyan study in the Tripolitanian pre-desert, the UNESCO Libyan Valleys Survey, demonstrated that the farm buildings are only the most visible components of complex and extremely well-preserved agricultural landscapes of residential and storage buildings, agricultural processing facilities, water storage cisterns, and irrigation and field boundary walls (Barker 2002; Barker et al. 1996). On the evidence of the project's detailed palaeoenvironmental studies, the climatic regime in the main phase of farming (the first to sixth centuries AD) was fundamentally the same as today, too low for rain-fed agriculture, so the farmers (Romanized Libyans on the evidence of inscriptions) built extensive systems of drystone walls to trap surface runoff after seasonal storms and divert it into fields laid out on the wadi floors. By these means, they were able to grow a wide range of crops including three cereals, three pulses, four oil plants, and a variety of

Fig. 8 A Romano-Libyan farm in the Tripolitanian pre-desert (oil press building; photograph by Barri Jones)



Mediterranean and African fruits, as well as keep flocks of sheep and goats. Many farms have stone pressing structures for making oil and wine, and vat capacities show that most farms were producing a surplus well beyond the needs of their inhabitants, for the new urban markets on the coast. In the 20 years since the fieldwork of the UNESCO team was completed, many of the farms and their associated agricultural systems have been damaged or destroyed by housing development, by new agricultural schemes, and above all by the pipelines and ancillary works of the Man-Made River.

In the oases of Fezzan in the south such as the Wadi Al Ajal, the ancient settlements and cemeteries (the latter numbering many tens of thousands of graves) of the Garamantes, a people described by the classical authors who played a pivotal role in trans-Saharan trade between Black Africa and the Roman empire (Mattingly 2003), are under increasing threat from state-funded housing developments, from expanding agriculture, and by a developing trade in stolen antiquities. Many upland areas of the remote Sahara have some of the world's greatest prehistoric picture galleries of painted and engraved art (Mori 1965; Le Quellec 1987), increasingly damaged by the massive expansion of the hydrocarbon industry, adventure tourism, and vandalism and theft (Fig. 9), and in between, in the enormous silences of the Sahara, are relict landscapes of ancient lakes, their margins fringed with assemblages of Palaeolithic stone tools that are a priceless record of the expansion from sub-Saharan Africa of ancient and modern humans in the Pleistocene and of early Holocene hunter-gatherers (Cremaschi and di Lernia 1998; Lahr et al. 2009), totally vulnerable to the same threats that are damaging the more visible rock art.

The Archaeological Infrastructure

The custodian of Libyan heritage is the Department of Antiquities, based in the imposing Ottoman castle that is Tripoli's most spectacular historic monument, and with offices in all regions of the country. Established by the Italian colonial administration along similar lines to the Italian system of regional *Soprintendenze delle Antiquità*, it operates within the framework of the same powerful legislation protecting the archaeological heritage that was established in Italy by Mussolini in 1939. The legal protection for heritage has been further strengthened by various articles of Law No. 2 (1983) and Law No. 3 (1983 and 1995). Law No. 2 deals with museums, relics and documents and assigns responsibility of conservation to the Department of Antiquities. Law No. 3 (1983) empowers the Department of Antiquities as the state institution responsible for studying and protecting ancient monuments and for carrying out protective maintenance works. Within ancient city sites like Tripoli, Benghazi, Gadames or Sebha, protection is through designation of special conservation areas.

Five articles in Law 3 set out important definitions and clarifications relating to the cultural and natural heritage and its protection. An archaeological object is defined as “anything that has been made or manufactured by man and which relates to the human heritage and can be dated back 100 or more years,” and a natural collection as “anything that has connection or pertains to the human race (faunal, floral) as well as geological formations (stones and minerals) that have aesthetic



Fig. 9 Damaged prehistoric rock art in southwest Libya. *Top* Wadi Mattendoush, image damaged by bullet holes. *Bottom* Image damaged by plaster casting to manufacture a replica (photographs by Tertia Barnet)

value and tourist potential” (Article 1). The state claims all archaeological material; mobile and immobile cultural property, whether on the surface or buried, is considered public treasure, except for those cultural properties recorded within private collections (Article 5). It is against the law to export antiquities for any purpose (Article 6). Private or public organisations are not permitted to set up or amend a development plan for a town or village, or to build or rebuild roads, in areas where cultural property is registered (archaeological areas), except and unless an

accord has been reached with the Department of Antiquities (Article 7). It is against the law to destroy or disturb any cultural property (Article 8): permission may not be given for any construction or development project which involves disturbance of the ground in archaeological areas until an archaeological investigation (survey or evaluation) has been carried out by or for the appropriate authority (i.e., the Department of Antiquities) on all the affected areas. “Work permits will not be issued for jobs that require digging for agricultural, industrial or construction work before a complete archaeological survey has been executed by the authorities in the specified areas of the projects.”

Protection for existing archaeological sites is supported in law, and there are notable examples of the Department of Antiquities using the law to stop development in a known area of archaeological sensitivity. One example of such enforcement was of a retail complex under construction at Sidi Abeid Benghazi, a suburb of Benghazi, which threatened to destroy part of Euesperides, the ancient Greek colony (Bennett et al. 2001). Despite the strength of the Articles of Law 2 and 3, however, there are still a few examples of the law being used to integrate archaeology properly into development proposals in terms of evaluation and damage mitigation strategies, largely because of infrastructural weaknesses.

Although effectively established under Italian control and further trained to a high level of efficiency by Richard Goodchild (though sadly depleted of key staff in an air crash in the 1970s), the Department of Antiquities has suffered from a chronic lack of state investment for 40 years. The fact that the largest excavations—clearance operations for the most part—of the major classical sites were largely undertaken by Italian archaeologists in the 1920s and 1930s, during what was often a brutal colonial experience for ordinary Libyans, did not help archaeology's image with Libyan politicians or the public (Munzi 2007). Libya's heritage infrastructure is patently ill-suited and unprepared to deal with the colossal and ever-increasing scale of threat. The lack of state investment in the Department of Antiquities has meant that virtually all recent and current major development projects (water pipelines, urban construction, housing schemes, agricultural projects, desalination plants, pipelines, power stations, power lines, roads and railways), even in the most sensitive areas, have been, and are still, undertaken without appropriate archaeological impact assessment, monitoring or mitigation. Lack of state investment has also left the majority of the most important sites in a decayed and ill-kept state. Litter pollution is a problem on virtually all archaeological sites known to tourists. The wadis surrounding Cyrene, on many counts the most beautiful classical city in the entire Mediterranean, famous for its exploitation for export of the now extinct *Silphium* plant, are badly polluted by raw sewage from Shahat. In addition to the effects of these infrastructural weaknesses, all of Libya's landmark archaeological sites suffer from a lack of fencing and security, uncontrolled vegetation cover, the use of sensitive parts of some sites for animal husbandry, and a general lack of maintenance and restoration.

In its ancient cities, towns, villas and Roman/Byzantine churches, Tripolitania and Cyrenaica possess a wealth of extraordinary mosaics. Where pavements have been left *in situ*, they are universally under threat from a lack of maintenance and from the wear and tear of tourist feet (and domesticated animals). On other sites where mosaics have been lifted and placed on a backing of reinforced concrete for external

display, a system no longer used in conservation, a significant number have “exploded.” The worst example of this phenomenon is at Sidi Khrebish in central Benghazi, the location of part of ancient Berenice, the Greek and Roman settlement that succeeded Euesperides, where high status Hellenistic and Roman mosaics (Lloyd 1977; Michaelides 1998) now lie ruined and neglected (Fig. 10).

Vandalism is apparent on many archaeological sites, from the most frequented to the most remote (Fig. 9). Generally, it is graffiti, spray-painted or scratched onto standing remains, but occasionally, it is more serious: ancient paintings disfigured with bullet holes, or less dramatically but no less perniciously by guides repeatedly soaking the surfaces with water to give tourists a good photograph; engravings damaged by plaster casts; ancient tombs permanently damaged by picnic fires; masonry walls deliberately toppled; and vaults broken. More worrying still, in



Fig. 10 An “exploded” mosaic caused by the use of salinated concrete for display, Sidi Khrebish, Benghazi (photograph by Paul Bennett)

response to Libyans' easier access to external markets and the opening up of Libya to tourism, are the increasing numbers of clandestine excavations around many of the ancient coastal cities as well as in the hinterland, particularly of graves. A spectacular group of Hellenistic tombs near the mouth of the Wadi Giargiarumma, east of Ptolemais, was ransacked very recently (Fig. 11). There are innumerable similar examples testifying to an expansion of black market activities, from the covert and illegal sale of coins to tourists to the appearance of stolen Libyan antiquities in European salesrooms.

All of this is a consequence of the sustained and chronic lack of investment in heritage protection infrastructure. At a time when the Libyan government is increasingly recognising the value of heritage assets for tourism, as a job generator and a revenue earner, the lack of trained staff in the regional and local offices of the Department of Antiquities to maintain, make secure and improve archaeological sites is jeopardising the future success of the fledgling tourist industry. Libya needs trained, incentivised and adequately funded heritage personnel far more than it needs new hotels or tour operators. The difficulties lie not with Libyan legal structures, the theoretical strength of which has been detailed earlier, but the effectiveness of the planning process to implement those laws through planning conditions and controls; the ability of the Department of Antiquities to ensure that planning conditions are adhered to and heritage assets are protected and preserved for future generations; and the willingness of the state to support the planning system and the Department of Antiquities whenever the law is flouted.



Fig. 11 Hellenistic rock-cut tombs in the Wadi Giargiarumma, east of Ptolemais, recently robbed and vandalised (photograph by Paul Bennett)

The lack of state funding, training and capacity building, and the reliance on foreign missions have resulted in the Department of Antiquities having a limited track record in archaeological fieldwork, most of its energies having to focus on the issuing of appropriate licences and of monitoring the work it has authorised. Archaeological research has long been dominated by foreign archaeological missions and their research agendas, the latter dominated by investigations of the great Graeco-Roman cities. A huge amount has been achieved both within these urban sites (e.g., Fehervari et al. 2002; Joly and Tomasello 1984; Kenrick 1986; Laronde 1987; Mattingly and Hitchner 1995; Stucchi 1975, 1976; Stucchi and Luni 1987; di Vita et al. 1999; Ward-Perkins 1993) and with the less visible but no less important archaeology—of all periods of the past—of the agricultural zone and the Sahara (e.g., Barich 1987; Barker et al. 1996; Cremaschi and di Lernia 1998; Mattingly 2003; McBurney 1967; Mori 1960, 1965; Le Quellec 1987), with the result that Libyan archaeology is critical to our understanding of major historic forces from the origins of *Homo sapiens* to the Ottoman empire. This work, however, has almost entirely been carried out by archaeologists working for missions under licence from the Department of Antiquities, and largely at the cost of those missions and the national research bodies that have funded them. There is little or no history of contract archaeology in Libya, and there are fewer examples of state funding for archaeological excavation. A rare example of the latter was the Libyan Valleys Survey funded by UNESCO (though ultimately by the Libyan government) in the 1970s and 1980s, originally intended as a series of missions (British-Libyan in Tripolitania, French-Libyan in the Gulf of Sirte and Italian-Libyan in Cyrenaica) though in the event, only the British-Libyan project was able to develop as planned. The setting up of the Jamahiriya (National) Museum in Tripoli was also a UNESCO-funded project.

Rare examples of major rescue excavations in advance of development have been the Society for Libyan Studies' campaigns in the Sidi Khrebish suburb of the city of Benghazi (the ancient Greek and Roman settlement of Berenice) in 1971–1975 (Lloyd et al. 1977) and the collaborative excavations of the Society for Libyan Studies and the Department of Archaeology of Gar Yunis University (Benghazi) at Sidi Abeid in Benghazi (the site of the first Greek colony, Euesperides) in 1998–2006 (Bennett et al. 2001; Wilson et al. 2006; Fig. 12). Another very welcome development in recent years has been the series of student training excavations mounted by Gar Yunis University at Tocra (Buzaian 2000), and by the Department of Archaeology at Omar Mokhtar University, al-Baeda, at Balagrae (the ancient settlement at al-Baeda). The Department of Antiquities has also organised its own training excavation at Medinat Sultan (Fehervari et al. 2002).

During the earliest phases of the recent expansion of the gas and oil industry, the National Oil Corporation rightly demanded that environmental and archaeological impact assessments should be undertaken in advance of the laying out of seismic lines and other developments associated with hydrocarbon prospection. With just a few exceptions, the Department of Antiquities has undertaken the archaeological field assessments, but perforce using essentially untrained staff. The results have been disappointing, generally providing a catalogue of sites and materials that have been located, rather than a genuine impact assessment. In contrast, where members of the department have led collaborative teams involving external personnel trained



Fig. 12 Excavation by the Society for Libyan Studies and the University of Gar Yunis, Benghazi, at Sidi Abeid, Benghazi, the site of the ancient Greek colony of Euesperides (photograph by Paul Bennett)

in environmental impact assessment, for example work undertaken for the oil company ENI in the Edeyen of Murzuq, the results have been spectacularly informative (Anag et al. 2007).

Current Developments

The incredible pace of change, the potential impact of development on heritage assets and the weakness of the state heritage infrastructure have all the makings of a “perfect storm” regarding the threats to Libya's archaeological heritage. There is a desperate need to bring forward a new generation of Libyan curators and archaeologists to strengthen the capacity of the Department of Antiquities to protect and manage the country's cultural heritage resources effectively in the face of threats that are on an unparalleled scale. One of the by-products of the lack of state investment in antiquities infrastructure, in universities and in the Department of Antiquities has been an absence of employment opportunities for successive generations of potential archaeologists and curators. The years of sanctions have further affected the study of archaeology at university level, with chronically underresourced libraries, restrictions in the teaching of European languages in schools and universities, and limited opportunities for scholars to travel and study abroad. The lack of attractive long-term employment in heritage research or management has prevented many bright students from pursuing postgraduate study and seeking to forge a career in archaeology or related disciplines. (The contrast with the status of geology training in Libyan universities, as a pathway into the oil industry, is very striking.) However, there are encouraging signs of a sea change in

the state's attitude to heritage and tourism, with instances of political and financial support to protect and enhance at least the most visible and frequently visited archaeological sites.

Arguably, the most important initiative has been the Cyrene Declaration of September 10, 2007, when Dr. Saif el Islam Ghaddafi announced the creation of the world's first regional-scale conservation and development project, in the Green Mountain area of Cyrenaica. In recognition of the abundance and unique qualities of the antiquities of the region, one of the objectives of the declaration is to conserve and protect sites of archaeological and historical significance. Early in 2009, a start was made by the Engineering Consulting Office for Utilities (a body closely connected to Dr. Saif) to implement the declaration. Proposals have been put forward for the protection and management of the four main archaeological sites in the region (Apollonia, Cyrene, Ptolemais and Tocra): to identify priority issues common to all four sites, and the remedial measures to address them; to develop visitor strategies and improve amenities; to strengthen security; to restore monuments in poor repair; and to develop buffer zones around the core archaeological areas to provide layers of protection from unplanned development that presently do not exist.

A parallel initiative, by the Organization for the Development of Regional Centres (connected to the Prime Minister's Office), has been the compilation of management plans to improve facilities and undertake restoration works at a number of landmark sites throughout Libya. The proposals, prepared by external consultants, include a new visitor and maintenance infrastructure for Lepcis Magna; sea defence works at Sabratha; dune stabilisation at the Roman "hunting baths" of Lepcis Magna; a lighting scheme for Sabratha and Lepcis Magna; restoration work at the Villa Selin; and, in Tripoli, the restoration of Tripoli Castle including improvements to the Jamahiriya (National) Museum, and of the Arch of Marcus Aurelius, the major surviving Roman structure of the ancient city of Oea. In Cyrenaica, proposals have been drawn up to improve facilities and undertake restoration work at Cyrene, Apollonia and Ptolemais. Plans are also being put forward for a new museum at Jarma (the ancient capital of the Garamantes) in the Fezzan. However, although the main proposals appeared to address many of the issues highlighted earlier, they are presently under serious review by sections of the Libyan government, including the Department of Antiquities, the fair criticism being that they focus too much on costly new buildings and reconstruction projects and too little on the most vital element in making change happen and be sustainable in the long term: investment in people.

In addition to the major need to review the status of all heritage assets, the greatest priority is to train a new generation of Libyan archaeologists and heritage managers, to strengthen the capacity of the Department of Antiquities to manage the country's cultural heritage resources more effectively. Allied to a stronger antiquities service has to be the development of heritage-aware staff in provincial planning departments (curatorial staff in the British context) so that the laws protecting Libyan heritage are implemented and enforced at the local level. In recent years, increasing numbers of Libyan students have been accepted for postgraduate study on archaeological topics abroad in Italy, France, Britain, Poland, Germany and Egypt. There are also plans to establish courses in heritage management at the Universities of Al-Baida, Gar Yunis, and a new university being established at Tocra, in part to train a new generation of well-qualified archaeological guides. A broad range of

field disciplines, conservation practices and heritage management skills will be taught in the classroom and on site, the latter building on the University of Gar Yunis' long-running and successful archaeological field training school based at the archaeological site of Tocra.

A further welcome development in terms of informing and educating the wider public about the importance of Libya's archaeological heritage is the publication by the Society for Libyan Studies of the first of a series of archaeological guidebooks to the Antiquities of Libya, in English and in Arabic (Kenrick 2009). The Arabic version of the guide has been sponsored by Shell Libya, and significant numbers of the publication are being circulated free of charge to Libyan schools and universities. A series of site-specific archaeology books for primary and secondary school children in Arabic and English are also planned.

A staff training programme is presently being discussed by the Department of Antiquities with some of the leading oil companies working in Libya, the aim being to establish a field school funded by the industry to train archaeological staff in the surveying and GIS skills that are equally essential for the oil industry and in an effective heritage management system. One particular objective is to produce a full Historic Environment Record (Sites and Monuments Record) of all finds made during the early phases of oil and gas exploration. Other initiatives involving extensive archaeological fieldwork in the path of development include a major rescue survey being discussed for the 16 km² of new urban development that are planned for the town of Shahat south of Cyrene, which will extend over part of the necropolis of the ancient city. Similar plans are being proposed for a comprehensive survey and excavation project in the path of a major rebuilding programme of Medima Gadima, the old city of Tripoli. In Benghazi, it is proposed to preserve the ruins of Euesperides as an archaeological park, to create an archaeological garden and new museum at Sidi Khrebish to protect and preserve the remains of Berenice and, in an important innovation, to protect Turkish and Italian-period historic buildings. As yet, none of these plans has proceeded beyond the printed report, but the recognition that the entirety of Libya's past is represented by its archaeological heritage and that its protection entails much more than costly building restoration work at major tourist sites provides optimism for a significant change in government thinking and investment in its antiquities infrastructure.

An important milestone in this process was a major conference on the "Natural Resources of the Libyan Sahara" held in Tripoli and Sebha in 2000 (Mattingly et al. 2006), for two reasons. The first was that it addressed both the natural and cultural heritage, and demonstrated how the threats to them and management and protection of them were frequently interconnected. The second was that it brought together representatives of academe, policy making, the oil and gas industry, and tourism. Many of the papers given at the conference not only illustrated the extraordinarily rich and diverse historical and cultural heritage of the Libyan Sahara but also identified the growing number of threats especially in the desert region. One of many important by-products of the conference was a set of resolutions and the publication of a "Saharan Code." The conference resolutions included the following:

- The sha'abiyat (local peoples committees) of the Libyan Sahara are encouraged to "fully take into consideration the urban planning process," to adopt

“restoration programmes for important historic centres” and to adopt “public awareness programmes through education and the media;”

- Libyan authorities are encouraged to “ensure that oil companies are obliged to take heritage and environmental issues into consideration during their exploration and production processes and to contribute to funding, at a higher level than at present, for research, conservation and preservation;” and
- The Libyan government should seriously consider “the development and establishment of national parks and protected areas across the Sahara which not only preserve and protect the ecosystems and the cultural heritage,” but also “support programmes of research, conservation and tourism development.”

The “Saharan Code” adopted by the conference and now reproduced in official tourist literature states that to:

- never waste water and keep the Sahara green;
- take only photographs and leave no rubbish behind you;
- use local vehicles and drivers;
- do not disturb archaeological sites and artefacts;
- do not deface rock engravings and paintings and never wet rock paintings, as this destroys them;
- park your vehicles well away from sites of archaeological interest and natural beauty;
- never take artefacts, animals, rare plants and geological specimens from the Sahara—it is illegal;
- never buy antiquities or other rare items from the Sahara; and
- report anyone who breaks the code and threatens the heritage of the Sahara.

Conclusion

Protecting the archaeological heritage of a vast and sparsely populated country like Libya, in the face of one of the biggest development programmes anywhere in the world, poses a significant number of challenges, especially given the extraordinary richness and diversity of that heritage, from Graeco-Roman cities with buildings still standing several storeys high to undisturbed Palaeolithic campsites in the deep Sahara hundreds of thousands of years old (Barker 2006). The largest challenge by far to effective heritage protection and management is the lack of skilled archaeological personnel on the ground to undertake the fieldwork and all other aspects including reporting, conservation and curatorial care. The weakness of the infrastructure reflects decades of official neglect, in many respects related to the ambiguous relationship between Libyans and their complex and multilayered past during the process of postcolonial nation-building. The Department of Antiquities is the curator, contactor and custodian of Libya's archaeological heritage, but lacks the personnel and expertise to cope with a work schedule that is growing at phenomenal speed. On the other hand, state bodies responsible for promoting development now appear to recognise not only the importance of high profile sites for tourism and potential employment but also that archaeological impact

assessments must form an essential prerequisite for development. The corollary is that the Department of Antiquities will be called upon to undertake more assessments, surveys and excavations whilst at the same time run improved archaeological sites, better museums and diverse facilities, all without a core of trained staff to carry out the tasks.

Training is harder to sustain and fund long-term than “set-piece” building projects, and does not make for quick headlines about political success stories, but strengthening its antiquities infrastructure, and awareness of heritage issues in its planning and development infrastructures are by far the greatest challenges that the Libyan government faces if its archaeological heritage is to be preserved for future generations. Although a significant number of landmark sites have been universally recognised as internationally important with the granting of World Heritage status (Lepcis Magna, Sabratha, Gadames, the Tadrart Acacus, and Cyrene), not one of them has an acceptable World Heritage Management Plan. Libya has no National Sites and Monuments Record as a central register of its archaeological assets, the essential prerequisite for cultural heritage management, most specifically for protecting archaeological sites during the early stages of the development planning process. To protect Libya's archaeological heritage during this unprecedented period of crisis, the government will almost certainly need to call on external expertise not to draw up yet more management plans but to support and work with the Department of Antiquities and archaeologists in Libyan universities to help train the next generation of Libyan archaeologists as effective curators. A significant number of now critical reports lie in the hands of offices set up by the Libyan State to implement change. Over the next few months, key decisions will be taken that will determine whether preservation of their extraordinary archaeological heritage has a secure place in the developing fortunes of the Libyan state and its people.

References

- Anag, G., Cosentino, L., and di Lernia, S. (2007) *Edeyen Of Murzuq: Archaeological Survey in the Libyan Sahara*. Tripoli: Department of Antiquities; ENI North Africa; Rome: Università di Roma la Sapienza.
- Barich, B. (1987). *Archaeology and environment in the Libyan Sahara: the excavations in the Tadrart Acacus 1978–1983*. Oxford: British Archaeological Reports, International Series 368.
- Barker, G. (2002). A tale of two deserts: contrasting desertification histories on Rome's desert frontiers. *World Archaeology*, 33(3), 488–507.
- Barker, G. (2006). The archaeology and heritage of the Sahara. In D. Mattingly, S. McLaren, E. Savage, Y. al-Fasatwi, & K. Gadgood (Eds.), *The Libyan desert: natural resources and cultural heritage* (pp. 9–26). London: Society for Libyan Studies.
- Barker, G., Gilbertson, D., Jones, B., and Mattingly, D. (1996) *Farming the Desert: the UNESCO Libyan Valleys Archaeological Survey*. Paris: UNESCO; London: Society for Libyan Studies.
- Bennett, P., & Buzaian, A. (2006). A preliminary survey of Gasr Shibna, Benghazi. *Libyan Studies*, 37, 31–43.
- Bennett, P., Wilson, A. I., & Buzaian, A. M. (2001). Euesperides, the first Benghazi. In N. Higham (Ed.), *Archaeology of the Roman empire: a tribute to the life and works of professor Barri Jones* (pp. 219–236). Oxford: Archaeopress.
- Bennett, P., Wilson, I., Buzaian, A., & Kattenberg, A. (2004). The effects of recent storms on the exposed coastline of Tocra. *Libyan Studies*, 35, 113–122.
- Buzaian, A. (2000). Excavations at Tocra (1985–1992). *Libyan Studies*, 31, 59–101.

- Cremaschi, M., & di Lernia, S. (1998). *Wadi Teshuinat: palaeoenvironment and prehistory in South-Western Fezzan (Libyan Sahara)*. Florence: Insegna del Giglio.
- di Vita, A., di Vita Evrard, G., Bacchielli, L., & Polidori, R. (1999). *Libya. The lost cities of the Roman Empire*. Cologne: Konerman.
- Fehervari, G., Hamdani, A., Shaghlouf, M., and Bishop, H. (2002) *Excavations at Surt (Medinat Al- Sultan) between 1977 and 1981*. Tripoli: Department of Antiquities; London: Society for Libyan Studies.
- Goodchild, R. G. (1962). *Benghazi: the story of a city*. Cyrene: Department of Antiquities.
- Joly, E., & Tomasello, F. (1984). *Il Tempio a Divinità Ignota di Sabratha*. (MAL XVIII) Rome: “L’Erma” di Bretschneider.
- Kenrick, P. (1986). *Excavations at Sabratha 1948–1951. A report on the excavations conducted by Dame Kathleen Kenyon and J. Ward-Perkins*. Society for Libyan Studies: London.
- Kenrick, P. (2009). *Libyan archaeological guides: Tripolitania*. London: Silphium Books.
- Lahr, M., Foley, R., Crivellaro, F., Okumara, M., Maher, L., Davies, T., et al. (2009). DMP VI. Preliminary results from, 2009 fieldwork on the human prehistory of the Libyan Sahara. *Libyan Studies*, 40, 133–153.
- Laronde, A. (1987). *Cyrène et la Libye hellénistique*. Paris: Editions du Centre National de la Recherche Scientifique.
- Le Quellec, J.-L. (1987). *L’Art Rupestre du Fezzan Septentrional (Libye): Widyān Zreda et Tarut (Wadi Esh-Shati)*. Oxford: British Archaeological Reports, International Series 365.
- Lloyd, J.A. (1977) (Ed.) *Excavations at Sidi Khrebish, Benghazi (Berenice). Volume I*. Tripoli: Supplement to *Libya Antiqua*.
- Lloyd, J. A., Reece, R., Reynolds, J. M., & Sear, F. B. (1977). *Excavations at Sidi Khrebish Benghazi (Berenice). Volume I. Buildings, coins, inscriptions, architectural decoration*. Tripoli: Department of Antiquities.
- Mattingly, D. (1995). *Tripolitania*. London: Batsford.
- Mattingly, D. (1996) From one colonialism to another: imperialism and the Maghreb. In J. Webster and N. Cooper (Eds.) *Roman imperialism: post-colonial perspectives* (pp. 49–69). Leicester University: Leicester Archaeological Monographs.
- Mattingly, D. (2003). *The archaeology of Fezzan. Volume I. Synthesis*. Society for Libyan Studies: London.
- Mattingly, D. J., & Hitchner, R. B. (1995). Roman Africa: an archaeological review. *Journal of Roman Studies*, 85, 165–213.
- Mattingly, D., McLaren, S., Savage, E., al-Fasatwi, Y., and Gadgood, K. (2006) (Eds.) *The Libyan Desert: Natural Resources and Cultural Heritage*. London, Society for Libyan Studies.
- McBurney, C. B. M. (1967). *The Haua Fteah in Cyrenaica and the stone age of the Southeast Mediterranean*. Cambridge: Cambridge University Press.
- Michaelides, D. (1998). *Excavations at Sidi Khrebish, Benghazi IV, Part I (Berenice: the mosaics and marble floors)*. Tripoli: Supplements to *Libya Antiqua*.
- Mori, F. (1960). *Arte Preistorica del Sahara*. Turin: Einaudi.
- Mori, F. (1965). *Tadrart Acacus*. Turin: Einaudi.
- Munzi, M. (2007). Italian archaeology in Libya. In M. Galaty & C. Watkinson (Eds.), *Archaeology under dictatorship* (pp. 73–107). New York: Springer.
- Reynolds, J. M. (1976) (Ed.) *Libyan studies: select papers of the late R. G. Goodchild*. London: Elek.
- Stucchi, S. (1975). *Architettura Cirenaica*. Rome: “L’Erma” di Bretschneider.
- Stucchi, S. (1976) (ed.) *Cirene e la Grecia*. Rome: “L’Erma” di Bretschneider=QAL 8.
- Stucchi, S., and Luni, M. (1987) (eds) *Cirene e i Libyi*. Rome: “L’Erma” di Bretschneider=QAL 12.
- Ward-Perkins, J. B. (1993). *The Severan buildings of Lepcis Magna*. London: Society for Libyan Studies.
- Wilson, A., Bennett, P., Buzaian, A., Cherstich, L., Found, B., Göransson, K., et al. (2006). Euesperides 2006: preliminary report on the Spring 2006 season. *Libyan Studies*, 37, 117–157.
- Wright, J. (2008). *The emergence of Libya*. London: Silphium Press.