

A Damage Assessment of Iraq's Past: Archaeological Heritage Management on the Rania Plain in Iraqi Kurdistan

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This paper advocates an increasing focus on damage assessment, monitoring and adaptation to the impact of urban development on archaeologically rich regions.

As a case-study of the wider Middle East, the discussion focuses on archaeological strategies for damage assessment, monitoring and the management of archaeological cultural resources on the Rania plain in the Kurdistan autonomous region of north-east Iraq. The pressures of modern devel-

opment, with extensive infrastructure development, rapid expansion of population settlements and a hydro-electric dam—the waters of which inundate a substantial proportion of the plain—make the recording of valuable cultural heritage an urgent and demanding task.

Keywords: Heritage Management; Urban Developmental Pressure; Damage Assessment; Iraq; Archaeological Strategies and Methods

Damage to the cultural heritage of Iraq over the last three decades has been catastrophic. Military action, rampant looting and rapid development have resulted in damage on an unprecedented scale. Fortunately, the situation in the Kurdistan Region of the Republic of Iraq is far better than in the rest of the country. A myriad of issues fall under the broad umbrella term of cultural, and in this case archaeological, heritage: academic exchange, cultural identity, development (both infrastructure and economic), management and preservation, and politics and tourism. A brief overview of these issues forms the first part of this paper. The second part discusses the specific challenges, strategies and suggestions for the preservation of ancient cultural heritage noted by the authors during the University of Copenhagen Archaeological Project on the Rania Plain in Iraqi Kurdistan (see fig. 1), which includes a joint survey project on the Rania Plain with the Netherlands Institute for the Near East (NINO).¹ Both these institutions collaborate closely in recording, assessing and monitoring the cultural heritage on the plain.

The Rania Plain is located in the Sulaimaniyah governorate and possesses a rich archaeological heritage. Today the plain and its many archaeological sites are heavily

affected by pressure from modern development. We are confronted with a number of major destructive forces: extensive infrastructure development, rapid expansion of population settlements, damaging agricultural practices and a hydro-electric dam. The widespread damage to the archaeological heritage calls for the development of management strategies. We believe that the Rania Plain case study is reflective of a general phenomenon and certain conditions that the wider Middle East is experiencing.

Central to a discussion of the management of cultural heritage in the context of landscape archaeology is the distinct form that it takes on the Rania Plain and of much of the Middle East, that of relic human landscapes: ancient settlements, in the form of earthen mounds and landscape features such as ancient canals and communication routes. In a fast developing region the problems regarding the preservation of recorded and, as yet, unrecorded archaeological sites against threats of destruction are great. At the same time the methods to catalogue, monitor and protect these resources are still evolving. The mitigation of potential damage and destruction to archaeological heritage requires as its basis a combined approach of (1) landscape survey (both on the ground by field survey and from the air by

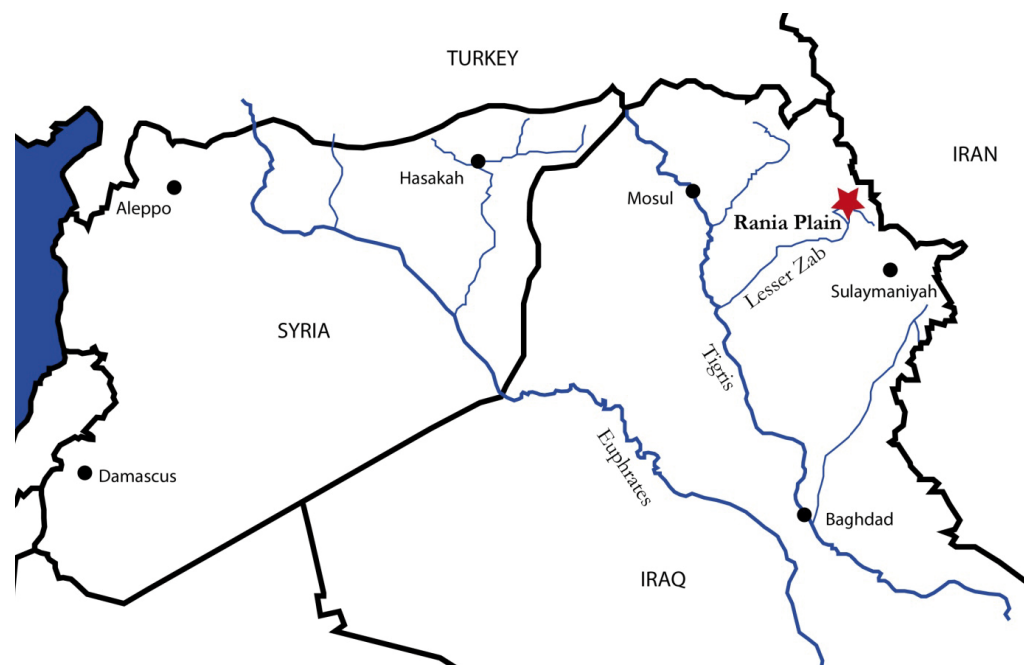


Figure 1: The Rania Plain, Northeastern Iraq.

Illustration: Tim Skuldbøl.

remote-sensing techniques); (2) salvage excavations; (3) the recording and cataloguing of archaeological remains; and (4) the construction of databases in order to provide the informational resources for stakeholders in the cultural heritage sector (government departments and museums, politicians, local communities, developers, archaeologists—international and local, such as the Kurdistan Archaeology Syndicate—, cultural management experts, funding bodies and heritage organisa-

tions) to effectively plan and protect the region's cultural patrimony.

The encouragement to preserve and conserve archaeological heritage *in situ* has grown considerably in recent decades, especially in Europe (for example the PARIS4 conference; see Gregory and Matthiesen). Despite the cultural and academic importance of protecting immovable archaeological features some regions of the Middle East suffer tremendously from the pressures of modern develop-

ment (not neglecting threats due to armed conflict and illegal activities).

Over the last few years press sources such as *Foreign Policy in Focus* (Monroe), *The Economist* and *Hurriyet Daily News* are increasingly reporting how Iraqi Kurdistan is a region undergoing rapid economic development. The expansion of modern towns and villages, rapid growth of industry and new infrastructure projects (e.g. roads, government facilities, sanitation and proposed oil pipelines) accompanied by agricultural intensification are buoyed by newly flowing oil wealth and pressure from ongoing population growth.

Rapid growth is regarded as being almost certainly detrimental to cultural heritage and, therefore, its greatest threat (Isakhan 27). As the economy develops and urban populations expand tensions will increase between government policy, private property rights, and the monetisation (often as a potential tourism resource) and preservation of heritage. Ancient relic landscapes, something not quite as tangible as a historical monument or ancient city neighbourhood, tend to be less fortunate in their preservation. These landscapes belong very much to the imagination: they lack obvious visible meaning, and thus lack immediately comprehensible financial or cultural value. This makes the preservation of the relic landscape a special

concern for local and central government planning decisions—planning decisions that require detailed documentation and clear evidence of cultural worth.

Political Background

The Iraqi Kurdish Autonomous Region, administered by the Kurdish Regional Government (KRG), consists of four provinces in the upper north-eastern part of the federal Republic of Iraq. *De facto* semi-autonomous since the end of the First Gulf War in late 1991, it has an economy based on oil revenue and a stable security situation that encourages development projects.

In the period following the First Gulf War, and the implementation of a no-fly zone in late 1991, Rothfield reports that the whole of Iraq suffered looting (“Preserving Iraq’s Heritage” 6). After the Coalition invasion of Iraq in 2003, in which there was widespread damage and looting of sites as well as the theft of artefacts from Iraqi museums, Iraqi Kurdistan remained relatively stable and has been spared the massive pillaging and destruction that sites in southern Iraq have and continue to suffer. This situation, in the opinion of Bogdanos, is partly due to the difficulty and danger of policing sites in the south (156). Rothfield states that as of 2006/07, of the ten thousand registered sites in Iraq, 10% are estimated to be badly damaged each year

(21). These statistics reflect a complex nexus of organised crime, the illicit antiquities trade and local economic desperation.

Iraqi Kurdistan is at present a safe, welcoming and stable environment in which to work. With the wealth of cultural patrimony existing in Iraq, the Iraq State Board of Antiquities and Heritage (SBAH) and the General Directorate of Antiquities for the KRG face a challenging and complex task to record, safeguard and monitor cultural heritage. However, due to the KRG’s autonomy there is strong subsidiary authority in the management of cultural heritage and antiquities within the federal republic that affects a unified national programme.

Heritage in the Middle East

General threats to cultural patrimony in the Middle East are well documented. Amongst the most prominent are urban encroachment, infrastructure development, damage by agricultural expansion and intensification, looting of museums and archaeological sites (cf. Stone), and ideological or conflict driven damage to sites and monuments, including World Heritage sites. Threats to heritage are a problem in Jordan, Egypt, Afghanistan; endemic in western and southern of Iraq; and catastrophic in Syria.² Rapid modern urban sprawl is a clearly visible and pro-

found threat. The archaeologist Jason Ur (113) reports how the site of Kilik Mishik is slowly being swallowed up by the urban sprawl of Erbil, whilst the American Academic Research Institute in Iraq (TAARII) (2) has published satellite images showing the ancient city of Nineveh being encroached upon by an expanding Mosul. In Kurdistan, responsibility for the preservation of cultural heritage lies on the international level with UNESCO, on the national level with the SBAH, and regionally under the General Director of Antiquities for Kurdistan, which in the opinion of Palumbo, Agnew and Myers (340) lacks resources following many years of embargoes and political change. Yet Stuart Gibson in his report on the Kurdistan museum service believes the will for positive action is there with determined and committed museums (3). Moreover, there is a growing commitment in Kurdistan to the funding and training of local experts, government and Directorate of Antiquities staff.

Distinctions in the Types of Cultural Heritage

An important distinction to be made at this point is one between conventional heritage sites—ancient and historical monuments and buildings, and excavated archaeological sites—and relic landscapes

consisting of ancient man-made landscape features and indistinct settlements in the form of earthen mounds.

An ancient settlement usually consists of anonymous landscape features that do not offer an easy understanding of their significance. This type of landscape represents a case of heritage lying between the tangible and intangible; i.e. it is known but not clearly discernible. There are no easy ways of solving the problem of promoting these types of sites in the public imagination. Relic landscapes are not clear cut monuments of the type thought to warrant UNESCO accreditation (although a debate is emerging over 'Cultural landscapes'; UNESCO 12), but landscapes holding finite and easily damaged or destroyed archaeological data.

This form of heritage makes public awareness problematic as there are no easily discernible monuments (except for the ancient settlement mounds themselves) and a culture-historical significance that is abstract. On the Rania Plain, the vast majority of the sites are anonymous landscape features that require a specialised knowledge to fully appreciate their worth. They fall outside the boundaries that clearly demarcate heritage space and there is no obvious way of marketing them via national or international tourism. This lack of an immediate 'value' may hinder policy deci-

sions regarding development and exploitation of the landscape.

Surveys play a vital role in recording these landscapes. They underpin Iraqi heritage management by identifying and recording cultural resources such as sites, monuments and landscape features: many of which are not readily identifiable.

Heritage, Tourism and Identity in Iraqi Kurdistan

The primary focus of heritage preservation in Kurdistan is on monuments, caves and the built environment. The most prominent are the multi-national projects undertaking salvage and restoration work—such as the French, German, Greek, Italian, Polish, UNESCO and Kurdish Regional Government (KRG) projects—at Erbil's citadel, Koya's Ottoman era citadel, the site of the Neo-Assyrian rock reliefs at Khinnis and the internationally famous Shanidar caves. The Archaeology section of the KRG Tourism website ("Kurdistan. Land of Nature and History") is representative of policy. In contrast to research focused excavations, the Directorate of Antiquities in Erbil has undertaken salvage excavations at several small sites threatened by the expansion of Erbil.

Cultural tourism has been considered a driving force for the heritage industry and in the case of Iraqi Kurdistan there

have been doubts over the clash of priorities between preservation and tourism (Rothfield, "Iraq Cultural Heritage Policy: The Kurdish Problem"; Exell and Rico 674). Al-Taie reports how the Iraqi Ministry of Tourism and Antiquities plans a programme of restoration and improvement to heritage sites across Iraq, including the construction of new tourism facilities and infrastructure.

A significant undercurrent in cultural heritage is the politics of identity, in particular identity formation. For the Kurdish Autonomous Region heritage can play an important role in the (re)construction of a distinct regional identity—as well as the negotiation of identities of minority groups within Kurdistan itself—as it seeks to differentiate itself and accentuate a distinct identity. As a means of solidifying identity cultural heritage is far less politically controversial than the issue of full autonomy.

Archaeological Research in Iraqi Kurdistan

In recent years the stable security environment in Iraqi Kurdistan and the Iraqi Republic's enthusiasm for archaeological research has led to a resurgence of projects in the region. The SBAH in Baghdad and the General Directorate of Antiquities of the KRG, based in Erbil, have welcomed new foreign-led and

joint projects to investigate Iraq's cultural heritage.

Previously, surveys were undertaken in most parts of Iraq with a peak in the 1960s and 1970s. In later decades the Kurdish region of Iraq was largely inaccessible to foreign projects due to wars, embargoes against the regime of Saddam Hussein, violent clashes and the general political instability in the region (Ur et al. 89).

At present, there are dozens of archaeological projects being undertaken in the Kurdish region.³ These are both international and local government led projects, and include a growing number of large and small-scale surveys and excavation projects recording the cultural patrimony in the region (see Altaweel).⁴ The Rania Plain Survey is itself contextualised by new archaeological surveys in surrounding provinces.

The Rise in Remote Sensing

Recent advances in remote sensing with the use of aerial photographs and commercially available satellite imagery has revolutionised archaeology in recent years, facilitating the growth in the discipline of satellite image-based landscape analysis.

Remote sensing is utilised in cultural heritage management and documentation and is a means of protecting Iraqi heri-

tage. High-resolution satellite imagery is deemed by Brodie and Parcak to be an economically effective means of undertaking this task. Publicly available satellite imagery, including open access Google Earth and Bing Maps, have been used to identify sites, and assess and monitor damage (such as looting) and long-term developmental pressures from urban and rural growth (see, for example, Lane; Contreras and Brodie; Parcak).

The development of simple damage assessment strategies and monitoring techniques require cost-effective solutions. The use of satellite imagery allows monitoring in the medium term. However, recent or high-resolution imagery are not always available or affordable. Short-term and fine-focus monitoring can be fulfilled by the use of self-procured aerial imagery and field surveys.

A popular new addition to the tools employed for landscape and site investigation and recording are small radio-controlled micro-helicopters—more commonly termed 'drones'—, often incorporating GPS units (Hill). Aerial photography and kite photography have been utilised for decades, but drones that have a payload sufficient to lift a small digital camera are more flexible platforms and have introduced economic, easily transportable and deployable remote sensing into the field.



Figure 2: The Dokan Dam.

Photo: Henrik Brahe and Tim Skuldbøl 2013.

They have been used for a range of tasks such as site identification, mapping (to produce high-resolution and 3D digital surface models) and site monitoring in many parts of the world (Casana et al.; Fernández-Hernandez et al.; Parcak).

The Rania Plain: Archaeological Background and Aims of the Project

The Rania Plain lies in an enclosed valley in the western foothills of the Central Zagros Mountains in north-eastern Iraq and

is a spatially and ecological constrained environment. The plain is approximately 30 by 20 kilometers square or about half the size of the Shahrizor Plain to the south. Within this area are the large urban centres of Hajiawa, Chwarqurna and Rania, and a large number of ever growing villages. The Sungasur Gorge gives access to the Rania Plain from the smaller Pishdar Plain to the east and through which the Lesser Zab River enters the plain and flows into the artificial lake created by the Dokan

Dam. The lake, which is located in the central and southern part of the Rania Plain, covers approximately 150 square kilometres or about a fourth of the plain. The multi-purpose dam was constructed in the late 1950s to regulate the flow of the Lesser Zab river, store water for irrigation and to provide hydro-electric power (see fig. 2).

The plain possesses a temporally profound cultural history with numerous archaeological sites dating from the early Neolithic to pre-modern times densely distributed across the landscape, particularly in association with the Lesser Zab river and natural springs.

Between 1956 and 1960, prior to the completion of the Dokan Dam, Iraqi archaeologists surveyed forty ancient sites on the Rania Plain (al-Soof) and subsequently investigated ten selected sites. One of the most extensively excavated was the now partially submerged Tell Basmusian (see al-Soof). The most famous site on the plain is that of Tell Shemshara. It was initially excavated by a Danish team in 1957 (finding early Neolithic and Middle Bronze Age occupation) and is currently being investigated by the University of Reading (directed by R. and W. Matthews)—working in the earliest Neolithic levels—and NINO, who are concentrating

on Middle Bronze Age occupation (Eidem; Eidem and Læssøe).

In 2012 a Danish team from the University of Copenhagen began investigating the twin sites of Bab-w-Kur. Located about 5 kilometers south-west of Shemshara, the sites lie deep within the inundation zone of the Dokan Dam (a band about 3-7 kilometers wide along the lake's northern edge). We recorded extensive surface remains—exposed by water erosion—of a walled and well-organized settlement from the Late Chalcolithic 2-4 period (4000-3300 BC) (Skuldbøl et al.).

The research goals of the University of Copenhagen project are: (1) to investigate the development of settlement on the plain, placing it into a wider analysis of the development of early urban societies of Northern Mesopotamia (modern Iraq, Syria and Southern Turkey); and (2) to record valuable data to be employed in the cataloguing and protecting of the extant archaeological heritage of the Rania Plain. To this end, we are developing simple and cost-effective strategies from established practices (many of which are shared by other projects in the region) to identify, monitor and mitigate damage and potential threats to intact cultural material. Methods such as high-intensity field survey, targeted salvage excavations, satellite imagery analyses, Geographical Informa-

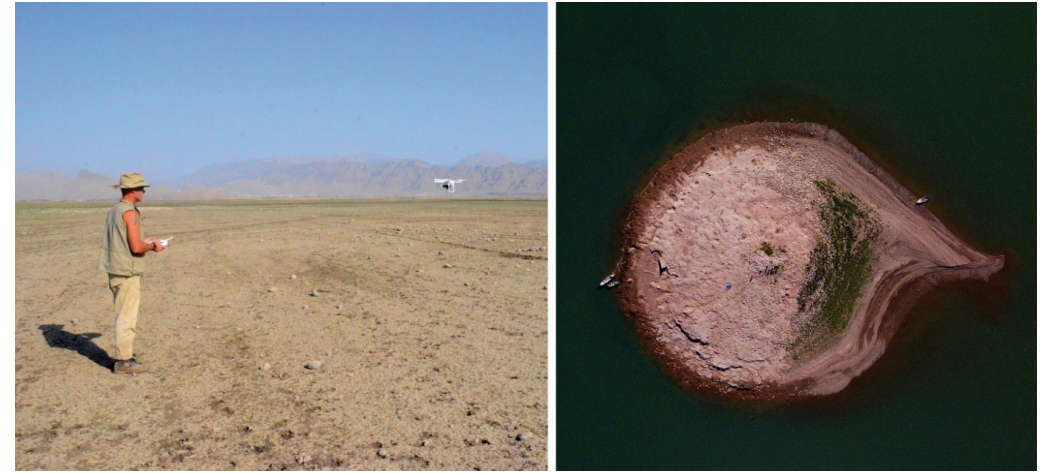


Figure 3: The project uses a microcopter with a high-resolution camera. As a tool for recording cultural heritage they are a rapid, relatively inexpensive resource. Photos: Henrik Brahe and Tim Skuldbøl 2013.

tion Systems (GIS) analysis, geological coring and newly-emerging imagery technologies (see fig. 3) are being adapted to the specific challenges of the Rania Plain.

In the autumn of 2013, as a test of ancient settlement density of the wider Rania Plain project area and in collaboration with NINO, we conducted a preliminary high-intensity field survey involving the collection of surface materials—primary pot sherds—within a 4 square kilometers sample area. More than thirty sites were recorded, a third of which although small, were previously unknown. Almost all the sites lie in the lake's flood zone. The high site numbers in this sample demonstrates

the potential number of archaeological sites under threat in just this zone alone. The project uses an integrated approach to understand the cultural landscape of the Rania Plain. A rich data resource has been created by combining recently acquired survey data, satellite and aerial imagery, older data from Corona satellite imagery of the 1960s and 1970s, and data from the salvage-survey carried out by al-Soof in the 1950s. This has provided insights into: (1) the present state of preservation of the plain's archaeological remains; (2) evidence of damage dating to before the beginning of this project; (3) damage and threats due to recent urban expansion and the intensification of agri-

culture; and (4) the effects of the seasonal fluctuations of the lake on sites lying within its inundation zone.

The combined data of the survey and excavations will provide a better understanding of the nature, chronology and extent of human occupation on the plain (see Skuldbøl et al.; Skuldbøl, Hald and Colantoni).

The Rania Plain: Impact of Modern Developments and the Destruction of Archaeological Heritage

The archaeological heritage of the Rania Plain suffers a number of prominent threats. There is urban sprawl and infrastructure construction in the northern half of the plain, and intensive agricultural exploitation in and adjacent to the flood zone of the Dokan Lake in the southern half. Whilst archaeological sites lying within this zone are also subject to seasonal damage by the lake's waters. Looting, however, is rare in the region.

With the construction of the Dokan dam many of the archaeological sites on the Rania Plain were submerged. However, seasonal changes in the water level of the reservoir—as it rises in the spring and falls in the summer and autumn—expose many sites previously covered by the waters to waves and erosional processes that remove large tracts of *in situ* archae-



Figure 4: The destruction of intact archaeological remains at the site of Lower Waranka.

Photo: Henrik Brahe and Tim Skuldbøl 2013.

ological deposits.⁵ The depositing of silt by the lake is also concealing low mounds and other archaeological features. As a result, archaeological heritage within the flood zone is under tremendous threat (see fig. 4).

The towns and villages on the plain are rapidly expanding and together with the development of infrastructure threaten archaeological sites (see fig. 5). Threats are

exemplified by the modern Islamic cemeteries, which are often located on ancient mounds near modern villages or towns; the spread of industrial works such as the series of huge concrete works and factories in the towns of Chwarqurna and Rania (indicators of the construction boom on the plain); the construction of new roads; and the noted growth in the population corridor on the western side of the plain.

The ancient settlement mound situated in the middle of the town of Boskin is a particularly good example of a site being destroyed by modern urban expansion. In 1956 it was, according to al-Soof, a relatively large intact mound. Today the top and sides of the mound have been levelled for a water-pumping station. The remains of a cemetery cover part of the mound. On all sides houses encroach onto the mound together with deep, large pits said to have been dug by the Iraqi military. The pits are now being expanded and filled with town garbage (see fig. 6).

Intensive agricultural activities such as the deep-ploughing of fields, the digging of irrigation channels and earthen agricultural water reservoirs (primarily in the flood zone) are destroying many low mounded archaeological sites (see fig. 7).



Figure 5: Corona satellite image from 1968 versus modern Bing Maps image showing changes in roads and the expansion of the town of Rania.

Sources: Corona image 1968; DigitalGlobe 2014 and Microsoft Corporation 2014.

Discussion: Managing Non-Conservable Remains

How do you manage irreplaceable archaeological cultural material that cannot be easily preserved *in situ*?

Despite the value of protecting archaeological heritage *in situ* some regions of the Middle East are under tremendous pressure from modern development. Regions such as the Rania Plain require advocates if their current fate is not to be simply ignored. The multitude of separate demands and interests that regional authorities face, make the establishment of effective and comprehensive heritage protection a demanding task. Nevertheless, development

will and must continue, balancing the needs for heritage preservation and basic infrastructure, building space and farmland for the region's population.

We believe in an adaptive approach with an increased focus on developing and implementing damage assessment and monitoring strategies (the linchpins for managing endangered archaeological heritage) that are both simple and cost-effective.

Regional Databases for Site Recording and Preservation

A fundamental building block for the preservation of the cultural landscape in Iraq Kurdistan is the development of open ac-

cess and comprehensive site inventory catalogues that can be used to monitor threats to archaeological sites. These catalogues, containing details such as site location, chronological period and state of preservation, are already under development in some regions of the Middle East. Ideally they should possess the characteristics of being an interactive and easily maintainable GIS-based online database founded upon on contemporary satellite imagery. For the Rania Plain this means contributing documented sites, evidence of damage and potential threats.

Considerable effort and funding has gone into developing such a heritage inventory system. Ongoing projects include an Australian-led undertaking developing a database to record the damage to heritage in Iraq (Isakhan). In 2011 the Middle Eastern Geodatabase for Antiquities (MEGA-Iraq) project was initiated; a collaboration between the Getty Conservation Institute, the World Monument Fund and the Iraq SBAH. This web-based GIS database (founded on Open source software and underpinned by Google Earth) is designed to be a national inventory management system for the recording, monitoring and mapping of archaeological sites and monuments. According to Palumbo, Agnew and Myers (341), and Kennedy, the aim is to constantly update the conditions

of sites, for example: tracking damage, theft and threats from development with the data available on a restricted basis to the relevant authorities to minimise the chances of sites being easily targeted by unwanted attention.⁶ Significantly for work in the wider region, the project faced problems due to the state of security in much of the country (Palumbo, Agnew and Myers 348). This initiative has now been superseded by a new heritage inventory and management system, the Arches Project (a Getty Conservation Institute and World Monument Fund project).

Capacity Building and Co-operation

Capacity building and training programmes are under way in Iraqi Kurdistan with a number of multi-national and Institutional collaborations (Cereti and Giunta). Training covers: heritage management; the recording, conservation and preservation of buildings and archaeological sites; and surveying techniques (see the websites of the Sulaimaniyah Antiquities Directorate; the U.S. State Department and the University of Delaware).

During the October 2013 field research season the site of Bab-w-Kur was visited by students from the University of Raparin (Rania)—who later participated in a day of excavations—, and the Sulaimaniyah Antiquities Directorate. Work at the site was also



Figure 6: Damage to the ancient mound of Boskin.

A) World View 2 satellite image (Source: DigitalGlobe 2010). B) Photo: Tim B.B. Skuldbøl 2012.

the subject of television reports. These events testify to a growing local interest and pride in the cultural heritage of the plain. However, in order to increase the capacity for risk assessment and salvage work of the local antiquities directorate more funding and staff would be required.

Simple, Cost Effective Methods

In order to protect ancient landscapes and sites archaeologists need to support heritage practice by providing a basic level of information and observation in a timely manner. Recording and cataloguing of heritage resources are essential for long-term management and protection strategies. Archaeological impact assessments and the provision of sufficient data is necessary to formulate a

government policy of considered development, make informed development decisions at a local level and to prioritise archaeological rescue projects. To respond to the speed of change research needs to be cost-effective, efficient and rapidly disseminated. Tools and strategies may include:

- Comprehensive records of the region's heritage resources are needed to update the Atlas of the Archaeological Sites in Iraq. To assist this, simple site catalogues incorporating visual records, chronological and locational data, and status assessments should be produced that can be easily integrated into more complex database systems in development.
- Use of remote sensing to monitor

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Figure 7: The impact of intensified agricultural activities (water reservoirs) in a section of the Rania Plain.
A) Photo: Carlo Colantoni 2013. B) World View 2 satellite image (Source: DigitalGlobe 2010).

changes and threats to the heritage landscape. Drone photography offers cheap, targeted and up-to-date information compared to satellite imagery and can be employed to target areas that are known to be under threat. The project is in the process of compiling and monitoring threats, which will be shared with the local antiquities directorate.

- Engagement with stakeholders (e.g. local communities, governmental bodies, academic institutions and participants, and schools) to raise awareness of the cultural heritage value of the landscape and the threats it faces. Involving and informing communities allows them to engage with government bodies in the protection and preserva-

tion of their own heritage. The sharing of knowledge concerning sites under threat is necessary to effectively target salvage excavations or site documentation.

Our aim here is to open a discourse on how to formulate simple, cost-effective methods of recording and preserving a near-invisible heritage against modern pressures. Databases are in development, but they may take years to get up and running. In the meantime, the prospects for archaeological heritage management on the Rania Plain are in the balance. Rapid urban development and erosion caused by the lake are taking a toll on the relic landscape, whilst sites are being heavily

damaged and many will probably go unrecorded and therefore be lost.

In the case of the Rania Plain, the heritage landscape is not one of tension between the state and local community in sharing cultural and economic benefits—as can be witnessed in other parts of the Middle East—but is a landscape subject to threats that are more prosaic. Developmental demands, investment opportunities, vested interests, the profit motive and the lack of an obvious tourism dividend, are among the factors that intertwine to create a set of competing interests and demands on this cultural landscape. It is a historical relic landscape that still needs to be fully documented and one that requires communities and stakeholders to engage with the slightly abstract values of cultural worth. These are issues common to many parts of the Middle East, but in the case of Kurdistan and the Rania Plain, the extent of survey work presently being undertaken or planned has the potential to provide a comprehensive heritage management data resource for the Kurdish government in the short term. In comparison to a rather bleak damage assessment for the cultural heritage of the rest of Iraq, Iraqi Kurdistan holds the possibility of a highly positive outcome for the preservation of a fragile and irreplaceable cultural patrimony.

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Notes

¹ The NINO Archaeological Project on the Rania Plain is directed by Jesper Eidem.

² The threat to Iraqi and Syrian heritage due to increasing sectarian violence and the struggle over territorial control during the summer of 2014 involving groups such as IS is yet to be fully understood.

³ To date, more than forty archaeological teams have commenced work in Iraqi Kurdistan (National Science Centre, Poland; Curry 18-19).

⁴ There are a number of landscape surveys presently being undertaken in Iraqi Kurdistan, these include: the Erbil Plain Archaeological Survey; the Shahrizor Survey Project; the Sirwan Survey Project; a provincial survey of the Governorate of Sulaimaniyah in collaboration with l'Institut français du Proche-Orient Iraq that overlaps with the Rania Plain; the MAIKI- Italian Archaeological Mission in Iraqi Kurdistan survey of the Chamchamal region; the Land of Nineveh Regional Project; the Upper Greater Zab Archaeological Reconnaissance Project; the Rawanduz Archaeological Program; Upper Tanjero Project; the Eastern Habur

Archaeological Survey and the Rania Plain Survey. In addition, there are a large number of archaeological excavation projects developing across Iraqi Kurdistan and a gazetteer of archaeological projects in Iraqi Kurdistan, including excavation projects, is now being prepared by John MacGinnis, Kostantinos Kopanias and Jason Ur (see also Altaweel).

⁵ Extensive damaged caused by the lake's waters have been reported by Eidem (9) at the site of Shemshara, whilst heavy damage is clearly visible on the mound of Basmusian.

⁶ Although, at the time of writing, this project was reported on the Arches Project website to have stalled due to administrative changes.

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