

# **Israeli and Palestinian Archaeological Inventories, GIS and Conflicting Cultures in the Occupied West Bank**

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## DECLARATION

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I, Adi Keinan, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.



## ABSTRACT

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Effective protection and management of cultural heritage resources in a specific region requires planning strategies and policies, which rely on the sum of existing information about archaeology and cultural heritage. The role of archaeological inventories in the process of heritage management is, therefore, central and critical, as they are supposed to convey our present state of knowledge and be the basis on which management priorities are decided. This dissertation examines existing Israeli and Palestinian archaeological and architectural inventories covering the occupied West Bank, as well as assessing the role of Geographic Information Systems for heritage management in this region. Its main objectives are twofold: first, it explores the nature of archaeological records and the way they reflect particular research interests and heritage management priorities; and second, it examines variability in data quality, coverage, accuracy and reliability. By examining recording emphasis in West Bank inventories, this research interrogates the ways in which social, political, ideological or cultural values may affect different aspects of data collection and management. The assessment of different inventories through comparison, analysis and fieldwork, sheds light on current Israeli and Palestinian approaches to documentation and data management, as well as broader issues associated with the collection and use of information about the past in contexts of cultural conflict. Framed within the political context of the Israeli-Palestinian conflict, this research has theoretical considerations and practical implications. On the theoretical side, it raises awareness of personal, academic and national interests, the ways they are manifested in archaeological inventories, and the means by which they dictate the process of cultural knowledge production. On the practical side, it provides a set of recommendations for ways to improve current data management and dissemination strategies, and thereby encourage more efficient decision-making processes and better protection and preservation of heritage sites in the West Bank.

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## CHAPTER 1. INTRODUCTION

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“When there were no external records that you could refer to, even the outline of your own life lost its sharpness” (George Orwell, *1984*)

### 1.1 BACKGROUND

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This dissertation considers the variability in data quality and recording emphasis that is exhibited by archaeological and architectural inventories from the West Bank (occupied Palestinian territories), as well as the ways that Geographic Information Systems (GIS) are used for heritage management in the region. My main objectives are to understand what types of data are recorded, what kinds of priorities and preferences lie behind different inventories, who created them and in what context, how they differ or are similar to one another, how reliable they are, who can access and use what data – and how inventorial practices can be improved in the future.

This dissertation is framed by the historical context of the Israeli-Palestinian conflict and Israeli occupation of the West Bank. This historical relationship is relevant on two levels: first, the social, ideological, religious and cultural dissonances present in this region are important contributing and sustaining factors behind the Israeli-Palestinian conflict; some of these are linked, directly or indirectly, with issues of cultural heritage. Second, the practicalities of the current state-of-affairs in the West Bank, especially the division of jurisdiction and the way Israelis and Palestinian institutions are conducting themselves within the present framework, significantly impact different aspects of cultural heritage management. The management of cultural resources in general and of archaeological resources in particular is tightly related to and influenced by both of these facets of the conflict. In my dissertation I explore the impact of documentation and inventory use from past, present and future perspectives: I will look into past data collection and creation of inventories, also consider present use of existing inventories and current perceptions of the archaeological and cultural landscape, and ultimately address possible future improvements in data collection and management.

Ongoing ideological and political clashes to control the present and the past of this region have had direct implications on archaeological remains, practices and management in the

West Bank. Archaeological sites are strongly affected by large-scale looting (Kletter 2003; Kersel 2006, 2007; Yahya 2008a, 2008b, 2010b), as well as by the construction of the separation barrier (Yahya 2009), military operations (Rjoob 2010) and smaller-scale vandalism (e.g. Shragai 2003, 2007; BBC News 2010; Jerusalem Post 2010; YNET 2012). The definition, protection and preservation of heritage sites is also influenced to a great extent by political instability, poor law enforcement (allowing, for example, uncontrolled urban development, e.g. Al-Houdalieh and Sauders 2009; Al-Houdalieh 2010) and ambiguity in management responsibilities (Sauders 2008). The management and interpretation of archaeological sites may also suffer from 'cultural appropriation' (Hawari 2010b) and biased presentation to the public. However, much less evident are the consequences of the geo-political context in the West Bank on current archaeological documentation, data collection and management.

The West Bank has been extensively surveyed and excavated by archaeologists since the 19<sup>th</sup> century, resulting in a series of listings and descriptions of numerous archaeological remains deemed worthy of being considered 'sites'. Since the Six-Day War and the Israeli occupation of the West Bank in June 1967, Israeli site surveys and many excavations have been conducted in this area on a regular basis, creating further detailed inventories. In 1994, soon after the signing of an interim peace agreement between the Israelis and the Palestinians (known as the Oslo Accords), Palestinian institutions have initiated their own archaeological projects, including different types of documentation and the creation of archaeological and architectural inventories (see Chapter 4 for a more comprehensive overview of these events).

Since the formation of this political climate in the mid 1990s, a fresh examination and evaluation of the archaeological and cultural realities in the West Bank became a necessity. Understanding the importance of mutual Israeli-Palestinian dialogue and cooperation; the absence of sufficiently clear documentation of existing sites; and the need to raise public and governmental awareness of the significance of tangible heritage, a few joint initiatives have been attempted in the past few years by several academic institutions and NGOs. These included the Wye River Shared Heritage Project (Killebrew *et al.* 2006), Promoting Dialogue and Cultural Understanding of our Shared Heritage (PUSH 2008), and the Israeli-Palestinian Archaeology Working Group (IPAWG 2007; Much 2007; Greenberg 2008a; Dodd and Boytner 2010, 9-13; Yahya 2010a), in which I took part.

The main objective of IPAWG, for example, was to consider various aspects of the role of archaeology in the Israeli-Palestinian conflict, including public perceptions of archaeology, the status of archaeological sites and finds in case of the implementation of a two-state solution, and Jerusalem as a World Heritage Site. One of the important outcomes of this group was a joint document listing recommendations about the place of archaeological heritage in a final-status agreement between Israel and Palestine.

My own contribution to this working group consisted of the creation of the West Bank and East Jerusalem Archaeological Database (WBEJAD; Greenberg and Keinan 2007, 2009; Keinan 2010, forthcoming), a primary synthesis of Israeli archaeological activities in the Occupied Territories from 1967 to 2007. The construction of this database, in the course of which I was exposed to records of Israeli excavators and surveyors in this region, has gradually shaped my political and ethical stances as a professional archaeologist and, although it is not a common way to introduce a piece of academic research, I think it is important to introduce my own personal motives here. In contrast to many archaeologists who still perceive themselves as apolitical or neutral, and their work as largely disconnected from a wider social context, I would argue that there is a real need for political engagement within the discipline. Archaeology can and should be conceived of as a “form of social and political action in the present with emancipatory potential” (Tilley 1989, 105; see also McGuire 2008; Starzmann 2008), and this research can be viewed as a modest form of political action. Sharing the principles upon which the World Archaeological Congress was established (Ucko 1987), I am interested in promoting sets of postcolonial ethics, multivocality, reflexivity, and in general, a better understanding of the relationship between archaeology and the social context within which it is practiced.

The region of the West Bank is unique in the sense that, in its current fragmentary state, it is controlled both by Israeli and Palestinian authorities. This political situation, in which two nations in conflict conduct archaeological projects and manage the region’s cultural heritage, offers an important opportunity to compare the ways in which both sides collect and manage archaeological data. This is the main reason why the Gaza Strip, which is under full Palestinian control, was left outside the scope of this dissertation. In addition, for an Israeli researcher, the chances of obtaining data on archaeological inventories in Gaza are infinitesimal – especially at a time when even West Bank Palestinian archaeologists suffer from insufficient information about the archaeological situation in Gaza, or otherwise do not fully cooperate with the Hamas administration (Al-Houdalieh 2010, 31; Dodd and Boytner 2010, 10; Hole 2010, 51). Therefore, the region of the West

Bank, which offered both access to data as well as a good potential for comparison, was chosen as the study area for this research.

## 1.2 RESEARCH QUESTIONS

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As already stated above, the main goal of the chapters that follow is to explore the nature of Israeli and Palestinian archaeological documentation and cultural heritage data management in the West Bank. The political atmosphere of the Israeli-Palestinian conflict has had a substantial impact on the management, interpretation and presentation of heritage in the West Bank, due to the coexistence of diverse historical narratives and different prioritisations and valuations of cultural heritage. As subsequent analysis will make clear, data collection and the creation of inventories have been affected by the political atmosphere as well. It is important to define and highlight the impact of the socio-political reality on present-day archaeological inventories, understand its potential consequences, and seek ways to promote higher transparency and inventorial good practice in the region. This research therefore addresses the following questions:

1. What is the status quo for the practice of archaeology and cultural heritage management in the West Bank?
2. What current approaches exist for the creation and management of archaeological inventories? In particular, how is GIS being used for cultural heritage management? What are the current Israeli and Palestinian approaches to inventory creation and GIS use in the West Bank?
3. What are the effects of political, ideological and social background on the creation of archaeological and architectural inventories in the West Bank? Which factors may introduce bias into inventories? How are existing inventories different from or similar to one another?
4. How might differential access to inventorial data affect decision-making with regard to the management of West Bank archaeological landscapes?
5. How can data management be improved in order to enhance present-day and post-

conflict cultural heritage management practices?

### 1.3 DISSERTATION STRUCTURE

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With the above goals and questions in mind, this chapter has begun by introducing the core topics for this dissertation, providing some background to this research, and stating some of my own motivations in conducting it. It will continue below by providing some terminological clarifications that are important pre-requisites for the analysis that follows later on. Several different research methods are combined in later chapters and these are described, discussed and justified in **Chapter 2**. This methodological overview is then followed by an outline of the theoretical framework behind this research. **Chapter 3** first positions this dissertation within several postmodern theoretical trends, and then delineates a number of more specific concepts used in the examination of Israeli and Palestinian archaeological research interests, heritage management priorities and inventory creation. After establishing a solid theoretical background for the chapters that follow, next comes a detailed examination of the ways in which archaeological and heritage management practices take place in the West Bank. **Chapter 4** describes the different areas of jurisdiction and the legal frameworks within which Israeli, Palestinian and international institutions operate. This overview is followed by an examination of the different institutions engaged in archaeological activities and heritage management. The development of Israeli and Palestinian archaeological and heritage management research interests, and especially the current status quo, are also examined in this chapter, while applying some of the theoretical concepts presented in the previous one.

The last introductory outlines are presented in **Chapter 5** which covers the topic of archaeological documentation. It also considers the use of Geographic Information Systems (GIS) in archaeology and covers guidelines for data collection and management as well as different ways in which GIS is used for cultural heritage management globally. This outline is then followed by an overview of several archaeological inventories in the West Bank, which examines different aspects such as creators and their objectives, sources, contents, structure, GIS use and more. The description of the major Israeli and Palestinian archaeological and architectural inventories is immediately followed by their analysis and interpretation in **Chapter 6**. The first theme covered by this chapter, which focuses mainly on the WBEJAD database, is subjectivity in inventories, and the ways in which research

interests and heritage management priorities can be detected in West Bank inventories. The second theme covers other aspects of West Bank inventories, including GIS use, accessibility, reliability and accuracy, as well as the direct impact of the current political conflict on data collection.

These issues and many others are returned to in two small case studies, dedicated to specific regions in the West Bank. **Chapter 7** focuses on the first of the two case studies, which is the sub-region of Gush Etzion. It presents the results of a field survey, which aimed to re-assess the scope, priorities, accuracy and coverage of three major inventories covering this area, as well as to inspect previously recorded archaeological sites and their present-day condition, modern context, accessibility and potential threats. This re-assessment of inventories and the newly contributed data to existing records will demonstrate how current inventories can be enhanced and improved.

A second case study is dedicated to the Jericho Oasis and this covered two chapters. **Chapter 8** provides the first part of this case study and analyses different datasets available for the Jericho area, examining their structure, contents, and types of data. This is followed by the results from a questionnaire sent to archaeologists, academics, and heritage practitioners working in this region, whose main aim was to get an 'inside' perspective of what these stakeholders think of current inventorial practices – and how they might be improved. With other aims in mind and using additional methods, **Chapter 9** offers the second part of this case study and examines personal perceptions regarding archaeological heritage documentation and its potential impact on heritage management decision-making. It begins by considering a further questionnaire seeking stakeholders' opinions on the demarcation of boundaries of heritage management zones. It then reflects on an exercise distributed among archaeology students, inquiring into their different choices of site boundaries when dynamically interacting with different inventory datasets. And lastly, the chapter considers a field exercise conducted by archaeology students which was meant to simulate documentation processes and to highlight variations in students' approaches and personal values when recording the site of Hisham's Palace.

Taking a more discursive look at the range of themes raised in early chapters, **Chapter 10** seeks to provide clear answers to the research questions outlined above. It also suggests a variety of possible actions that can be taken in order to improve inventorial practices with regard to different aspects of data collection and management, GIS use, data sharing and accessibility. This chapter also considers the limitations of this research, as well as

envisaging ethical ways of looking forward at a broader picture of archaeological practice and heritage management in the West Bank. Finally, **Chapter 11** brings the discussion to a close by providing a brief overview of what the research set out to explore and what new information has been acquired, before then considering wider implications and possible future contributions.

#### 1.4 TERMINOLOGY

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At this stage, it is useful to raise some key terms that are commonly used throughout this dissertation, and explains how they should be understood. To begin with, even the term **'heritage'**, or **'cultural heritage'** has been constantly evolving and has yet to find a uniform definition. However, we can get a sense of it by first considering the ways in which it is theoretically discussed in professional literature, and second, by examining how it is defined in international charters or in resolutions for practical management activities. One of the main takes on the concept of 'cultural heritage' is that it was created rather recently, as a modern product of disciplinary practices and the 'heritage industry' – the business of managing historical places, objects or traditions that are valued by certain communities – as well as by processes of “construction, maintenance and reproduction of identities” (Hamilakis 1999, 69). However, cultural heritage is not always conceived by scholars and professionals in this way. Harvey (2001), for example, traces its historical roots as far back as the medieval period and, according to him, heritage is a cultural process, with a long-term temporal trajectory – and not just a “recent product of post-modern economic and social tendencies” (*ibid.*, 335).

Regardless, it is clear that 'heritage' should not be treated as a universal concept. Rather it can be perceived as the totality of ways in which people connect with the past, or as Tunbridge and Ashworth (1996, 7) define it, “a wide and varied mixture of past events, personalities, folk memories, mythologies, literary associations, surviving physical relics, together with the places, whether sites, towns, or landscapes with which they can be symbolically associated”. This definition of heritage differentiates sentiments, memories, and knowledge from a more spatial type of heritage, which connects feelings, experiences and knowledge to a specific place.

Since the formulation of the Venice Charter (ICOMOS 1964) and its adoption in 1965, UNESCO and ICOMOS have been refining the common terminology and scope of the concept of cultural heritage (Ahmad 2006). This institutional definition thereafter evolved further via different charters, resolutions, recommendations, declarations or statements (UNESCO 1968, 1972; ICOMOS 1982, 1987, 1999, 2007), but it began with a dual concept of tangible and spatial heritage. According to the World Heritage Convention (UNESCO 1972, Article I(1)), the definition of cultural heritage is as follows:

“monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;

groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;

sites: works of man or the combined works of nature and of man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological points of view”.

This terminology, as defined by UNESCO, remains largely unchanged to this day. However, the scope of what is considered heritage has broadened to include new kinds of physical heritage, as well as non-physical, intangible heritage. The Australian Burra Charter (adopted in 1979, and later revised in 1981, 1988 and 1999; ICOMOS 1999) was the first to introduce the idea of intangible heritage, including, for example, oral histories, folktales, customs, habits and traditions, and recognising that social and cultural values are not necessarily associated with physical places. In 2003, UNESCO adopted the Convention for the Safeguarding of the Intangible Cultural Heritage, and broadened its own definition of ‘cultural heritage’ to include “practices, representations, expressions, knowledge, skills – as well as instruments, objects, artefacts and cultural spaces associated... [with] communities, groups and, in some cases, individuals” (UNESCO 2003b, Article 2(1)).

This research acknowledges such a globally endorsed, widened scope for cultural heritage, but its main focus will be on a slightly narrower range of archaeological and architectural



heritage that is consistently documented by spatially-explicit inventories. An archaeological site or a historical building can be defined as a 'heritage' site if it can be demonstrated to have a cultural *value* – which could be a social, educational, scientific, historical or any other attribute that marks its importance to people (Sullivan 1997, 20; see Section 3.2.1 for a discussion on the concept of 'value'). In this research, I focus on inventories which include data on archaeological sites and traditional, historic buildings, and hereafter I refer to them as archaeological, architectural, or cultural heritage inventories.

But what is considered an archaeological '**site**' in the first place? Defining the concept of a site is a complex matter and, as will be discussed in the following chapters, its definition may vary greatly between researchers and therefore between inventories. In some cases, inventories combining data from several different sources may also feature incompatible site definitions. When I relate to an archaeological or architectural site in this dissertation, I refer to any physical remains, above or below ground, that were created as a result of human activity before 1948 (end of British Mandate in Palestine and the establishment of the State of Israel). This could, in principle, vary from a single object to an agricultural installation, a single structure or a tomb, to multilayered mounds, cemeteries and ancient villages, although in practice sites often are used to identify clusters of activity.

The term '**cultural heritage management**' (commonly abbreviated as CHM) also merits an explanation. This term relates to several practices applied to cultural resources such as archaeological or historical sites, objects or traditions, and may include documentation, maintenance, protection, preservation, conservation, research, interpretation and presentation to the public. Carmen (2000) perceives heritage management as a branch of public archaeology, since, although not usually engaging directly with the public, it does serve the public in other ways. He mentions additional terms equivalent to cultural heritage management, which refer more or less to the same type of practices; these are cultural resource management, archaeological resource management, or archaeological heritage management (*ibid.*, 303-304). In most cases, academic and professional literature refers to cultural heritage management with particular respect to archaeological sites, archaeological landscapes and historical buildings. Such is also the case in this dissertation where the focus is mainly on sites or buildings with spatial locations, even if several cases of intangible heritage are also considered in passing.

The creation of inventories – the identification and documentation of heritage resources – is one aspect of cultural heritage management. The terms ‘**inventory**’, ‘**database**’, ‘**documentation**’ and ‘**recording**’ are used extensively in later chapters, and therefore should be explained here. By inventory, I mean any type of systematically-collected data, whether in the form a hard copy list or a digital database. In this sense, a database is particular a type of data collection in a digital format that can be searched on a computer. When referring to the recording or documenting of a heritage resource, I follow Letellier (2011, xv) in meaning the “systematic collection and archiving of records in order to preserve them for future reference”, which can derive from a variety of activities, such as “recording, research and investigation, conservation, use and management, and maintenance and monitoring”.

## 1.5 SUMMARY

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While there have been previous regional studies on topics such as heritage management, the history of archaeology, disciplinary biases, and archaeological documentation, there has been no comprehensive research examining the different inventories existing for the West Bank, or comparing Palestinian and Israeli inventories. To summarise, this research aims to fill this gap by studying the nature of Israeli and Palestinian documentation projects, understanding how they relate the socio-political backgrounds of their creators, and suggesting ways to improve inventorial practices in this region. With these goals in mind, it is to questions of theory and method that we should turn first in the next two chapters.

## CHAPTER 2. THEORETICAL CONTEXT AND RESEARCH METHODOLOGY

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### 2.1 INTRODUCTION

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This chapter delineates a general research design and then introduces a series of appropriate research methods. The choice of methods for any kind of research project can vary depending on the academic discipline and on the preferences of the researcher involved. For example, the social sciences make use of a variety of theoretical approaches and research perspectives, but two major orientations could be roughly defined as: (1) positivist, realist and objectivist, and (2) post-positivist, relativist and subjectivist. In reality, researchers may adopt either of these approaches, or a mixture in their research, but regardless, these overall emphases typically then dictate the more specific methods then chosen for data collection and analysis. In the following section, I will begin by placing the research conducted in subsequent chapters within this wider context, before offering a more detailed overview of the different procedures used to collect rich, quantitative and qualitative data about cultural heritage documentation in the West Bank.

### 2.2 RESEARCH DESIGN

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A wide spectrum of approaches to social science research can generally be located between the pole represented by positivist and post-positivist approaches. Indeed, for some, these can be seen as two opposed scientific ‘cultures’, to which social scientists subscribe according to the scholarly environment in which they operate (Portugali 2006). Nowadays, scholars would tend to adopt a middle way between these two approaches, and not completely negate or agree with either. Such is also the case in the archaeological discipline, where approaches to research can be located at different points along this theoretical scale.

The positivist end of the spectrum sees human behaviour as governed by rules, and as such can be investigated by methods derived from or inspired by the natural sciences. Leaning towards a more positivist philosophical stance (Crotty 1998, 18-41; Robson 2002,

19-22), certain researchers believe that all or most of nature and human experience can be fully and objectively investigated using scientific methods, and that most phenomena are best explained logically or mathematically. In this approach, researchers also see themselves as largely independent from their subject(s) of study. A positivist approach goes hand in hand with objectivism – a sense that we have the ability to investigate and understand a reality which is otherwise largely external to us (i.e. which exists beyond our own mental perception).

At the other end of this spectrum is post-positivism, or perhaps interpretivism or constructivism (Crotty 1998, 66-111). According to this view, the social world cannot always (or for some, ever) be investigated by the same methods used to study the natural world. Knowledge is always subjective, as it is a social construct, and human behaviour, in particular, usually features several layers of meaning. Since researchers come from certain social backgrounds and have personal worldviews, they cannot be detached from their subjects of study (Miles and Huberman 1994, 8). Post-positivists are generally relativists as well, meaning that they believe that an individual's viewpoint cannot offer an absolute truth but retains only a relative value (Robson 2002, 22-26). Even so, many post-positivists do recognise the existence of an objective truth, and try to get as close as possible to it, whilst acknowledging possible biases (*ibid.*, 27).

Considering these two extremities of philosophical approach to social science research, it is worth stressing that this dissertation can be generally defined as a more post-positivist, interpretivist and constructivist. More precisely, it seeks to understand a complexity of agendas and priorities associated with heritage inventories in the West Bank, but does not aim to uncover general laws or rules. I largely agree with the post-positivist argument that “reality can never be fully apprehended, only approximated” (Denzin and Lincoln 2005, 11), and the general approach adopted here is well captured by Shanks and Tilley's (1987) three steps for reconstructing the archaeological discipline (as further discussed by Preucel and Hodder 1996): *understanding*, *critique* and *commitment*. With specific regard to the analysis offered hereafter, the first approach, *understanding*, refers to the pursuit of clearer ideas about the nature of archaeological inventories through their deconstruction; the second, *critique*, recognises the subjectivity of archaeological knowledge production, as reflected in inventories; and the third, *commitment*, is about discarding “the standard notion of objectivity in favour of the view that knowledge production is constrained by the local contexts and conditions” (Preucel and Hodder 1996, 526).

The gradual abandonment of the idea of 'objectivity' has been a process promoted by postmodern thought, increasingly introduced into Anglo-American archaeological theory during the late 1970s and more intensively still since in the 1980s (Hodder 1982; Miller and Tilley 1984; Trigger 1984, 2006 [1989]; Shanks and Tilley 1987, 1988). To focus on epistemology for a moment, postmodernism reflects a "crisis in our ability to provide an adequate, 'objective' account of reality" (Edgar and Sedgwick 2008, 257). Agreeing with this 'loss' of an objective social reality, I have duly adopted a post-positivist approach to the study of heritage inventories.

Being an archaeologist rather than a heritage practitioner, and coming from an academic background which has long been inspired by post-positivist worldviews, have affected my theoretical inclinations towards the subject of this research. There is a tension – or a gap – between academic archaeologists and heritage management professionals, who generally have different agendas (see for example Renfrew 1983; Smith 1994; McGimsey III 2003). Academic archaeology tends to be more post-positivist, driven by the pursuit of scholarly knowledge and problem-orientated agendas. As such, it recognises that data is only relevant in relation to problems, and therefore subjective samples need to be undertaken in order to test specific hypotheses. Cultural heritage practice and applied archaeology, on the other hand, are more tied to processual and positivist paradigms, and are led by the realities of mitigation and management agendas, including practical 'threats' such as the advance of commercial, residential and industrial developments. As such, heritage managers need to be able to map resources and ascribe significance to them in an 'objective', absolute manner. Academics and heritage practitioners thus approach archaeology from different perspectives, and this tension between management and research values will be returned to in the chapters that follow.

Traditionally and very generally, a post-positivist or interpretivist approach can also be equated with more qualitative research methods, while the opposite, positivist stance generally involves more quantitative methods. Qualitative researchers (Flick 2002; Denzin and Lincoln 2005) use multiple methods to collect rich, contextually-based, descriptive data, whose analysis may lead to the formation of explanatory inferences. Quantitative researchers (Given 2008, 713-718), on the other hand, tend to prefer empirical methods, statistical analyses and mathematical or computational models in order to establish general rules about the social world. My research is more qualitative in nature and design; but it is worth stressing that it also combines both quantitative and qualitative methods. This combination of methods is often referred to as mixed-methods or multimethods

study (Rossman and Wilson 1985; Brannen 2005). The use of multiple research methods in conjunction hopefully increases any research's validity, robustness and depth. I use a range of qualitative and quantitative practices, which include the collection and interpretation of information available in academic literature and online resources, the critical comparison and analysis of archaeological and architectural inventories, and finer-scale case studies that incorporate further investigative methods: an online questionnaire for stakeholders, class-led and field exercises for Palestinian students, and primary reinvestigation of sites via archaeological field survey. By using this variety of investigative and interpretive practices, we hopefully gain a better understanding of the nature of the creation and use of archaeological inventories in the West Bank, and their potential influence on a wider audience.

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### 2.2.1 CASE STUDIES

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Using a research design that prioritises the use of a series of case studies (Stake 2005), I will look in more depth into different aspects of current inventories and GIS use, and into the ways otherwise unified archaeological landscapes may be perceived, valued and represented differently by different people and/or via different inventories. Two case studies have been chosen for a more detailed level of analysis: Gush Etzion and the Jericho Oasis. Both can be seen as representative of the larger situation in the West Bank in certain ways, and despite dissimilarities in some of their characteristics; I will argue that they reflect typical practices of inventory creation and use. The choice of these two case studies was made with a view to building wider inferences about the larger case of the West Bank as an *intrinsic case study* (*ibid.*, 445). While my methods could be applied to the study of regions other than the West Bank, the main aim of this research is to focus on understanding this region as a case on its own, without implying that comparisons with other cases are easy or straightforward.

Several criteria were considered when choosing the two case studies, defined by Stake (2005, 445-446) as *multiple* or *collective case studies*. The first criterion was that they represent two different geographical zones in the West Bank. While one includes both Palestinian and Israeli controlled areas (Areas B and C), the other mainly (but not exclusively) relates to an area under full Palestinian control (Area A). Another criterion for choosing these cases was essentially good accessibility to data, potential for learning, and

the ability to address a variety of issues. The area of Jericho, for example, has been subject to continuous focus of research and extensive archaeological surveys and excavations, therefore it could be assumed that inventories and GIS have been created and used more extensively here than in other areas of the West Bank. Accessibility is crucial both with respect to data acquisition as well to physical visits to archaeological sites. By triangulating different methods within these case studies, I aim to answer the last three research questions by gaining a better understanding of the West Bank in general.

The first case study will focus on the region of Gush Etzion. The main goal of this case is to physically assess the current inventories listing archaeological sites in that area. This assessment will include the verification of site existence and examination of the accuracy of recorded site locations. Another goal is to re-examine the listed archaeological sites, documenting their modern context, accessibility, current condition and potential risks or threats. Conducting a field survey in the area of Gush Etzion will supply answers to my third research question (see Section 1.2) by showing what is recorded in each database and what is not, as well as by delineating the differences between databases. This field survey may also contribute a great deal to answering the last research question, by learning more about ways to improve current database and GIS use for cultural heritage management.

The second case study will deal with the Jericho Oasis, incorporate different methods and include four parts: (1) my own 'desk-based' evaluation of the different inventories available for the Jericho area; (2) an online questionnaire for stakeholders, looking into their opinions and perceptions of archaeological data and GIS maps; (3) a class-led exercise for Birzeit University (Palestine) archaeology students, striving to understand their perceptions of the archaeological landscape of the Jericho Oasis when using certain inventories, spatial layers and satellite imagery; and (4) a field exercise for Birzeit University archaeology students, examining potential differences in data recording and decision-making when managing the site of Hisham's Palace. The first and last parts of this case study aim to answer my third research question, by demonstrating differences in data collection and the consequent result of diverse inventories. The second and third parts aim to answer the fourth and fifth research questions, by demonstrating various perceptions of the same archaeological landscape, and providing different angles on how to further improve and upgrade current inventories, GIS and the way they are being used.

Evidently, the two case studies employ different methods and strive to answer research questions in different ways. As the West Bank is highly diverse and fragmented in terms of jurisdiction areas and types of settlements, choosing two (or more) small regions that would encapsulate all of its complexity is very challenging, if not impossible. For this reason, I chose two areas that represent common and characteristic scenarios: one is a large Palestinian city, surrounded by an area which is under full Israeli control (Jericho), and the other is a largely Israeli controlled area, featuring several Jewish settlements and Arab villages in very close proximity (Gush Etzion). Also, while Gush Etzion offers me, as an Israeli researcher, physical access to sites, the Jericho Oasis offers richer Palestinian data, as well as the opinions and expertise of Palestinian professionals and students. Attempting to fully benefit from both physical and remote access to data, I therefore chose different ways to obtain it.

## 2.3 RESEARCH METHODS

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### 2.3.1 LITERATURE REVIEW

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The first method used in this research was a literature review (Hart 1998, 2001), as a necessary initial step that needs to be taken in order to provide a solid theoretical and practical basis for this dissertation. The various overviews in the following chapters will establish a clear relationship between previous scholarly works and the topics covered by this research, articulate the current knowledge gap, and situate this dissertation within its broader intellectual field. My literature overviews, which will be included in Chapters 3 through 5, are particularly essential to better understand current practices of archaeology, cultural heritage management, data collection and the use of GIS, as well as the relationship between a researcher's socio-political background and the inventory they would ultimately create (research question 3). The interpretation of evidence collected from academic literature and online resources is also necessary to formulate better practices for future use of archaeological inventories and GIS in the region (research question 5).

When combing through relevant literature, I have strived to incorporate the most recent archaeological academic publications, and include current newspaper articles and other sources published online. In addition, I have generally tried to get as wider perspective as



possible on different topics, by examining worldwide academic literature and providing illustrations from many different regions. At the same time, and when possible, I have also looked into the broader context of the West Bank – the Middle East and Mediterranean – and placed my inventorial theories and practices within that wider perspective.

Literature reviews will cover topics such as legal and judicial issues relevant to the West Bank, current institutions and their activities in the region, current approaches for the creation and maintenance of inventories and the use of GIS, existing inventories, and the history of data collection in the West Bank. In Chapter 3, for example, I examine literature on social identity theories and the history of the Israeli-Palestinian conflict (Section 3.3.1.1) in order to infer a causal relationship between the formation of national identities and divergent historical narratives and the creation of subjective inventories. In Chapter 4, I consider the relationship between the history of data collection in the ‘Holy Land’ and the social-political-ideological context in which more recent documentation had been taking place (Section 4.4.1). These overviews are necessary in order to learn how the political status quo in the West Bank impacts the nature of Israeli and Palestinian archaeological inventories. Reviewing available literature with regards to these and other topics will result in an updated description essential for further analysis and interpretation.

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### 2.3.2 DATABASE ASSESSMENT AND COMPARISON

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Another method employed in this dissertation was the assessment of several major archaeological databases that are available for the West Bank region. If we want to understand the nature of existing inventories (research question 3), it is perhaps obvious but important to stress that any effective approach will begin by thoroughly examining each inventory as well as comparing the coverage and data depth of different inventories explicitly with one another. This will also point to ways in which we can improve the quality of existing records (research question 5). In order to learn about the character of different databases and recognise patterns, trends, research interests and priorities among data collectors, this research will offer an in depth database analysis (Chapter 6) as well as a more focused analysis of databases covering the Jericho Oasis area (Chapter 8, Section 8.2.2).

The assessment of databases included the examination of a variety of their aspects, such as

contents and structure, data sources, accuracy, aims and motivations of data collectors, and documentation methodology. This examination was achieved in several ways:

- Exploring databases' publications and websites (if available)
- Examining the nature and types of databases in order to discern which types of cultural heritage are being documented more than others
- Exploring sources that were compiled to create databases, e.g. archaeological surveys and excavations, by carefully going through their publications – with special emphasis on their introductions, methodological notes, and descriptions of their results
- Directly querying databases for sites by period, type, religious affinity, etc., in search of potential patterns
- Examining GIS-led site distributions in order to recognise patterns of data collection according to their geographical context

This analysis will be mostly qualitative in nature; however it will have some quantitative aspects as well. For example, when examining Israeli archaeological surveys, I will compare ratios of occurrences of different periods of occupation at surveyed sites, in order to look for potential interests of Israeli surveyors in certain periods and the disinterest in others (see Section 6.2.1).

It is important to note here that some technological aspects of Israeli and Palestinian inventories will not be examined in detail in this dissertation; these include the types of database software, hardware, operating systems and coding standard used by different stakeholders in the West Bank. While I did consider examining these issues, there proved to be very little reliable information on the topic. For this reason, I have tried to raise such questions of infrastructure where possible, but have decided to focus on other aspects of West Bank inventories, namely priorities and preferences of data collectors, accessibility to data, reliability and accuracy, and the impact of the political conflict data collection and management.

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### 2.3.3 FIELDWORK DATABASE ASSESSMENT

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An additional method used to examine databases in this research was fieldwork and on-the-ground re-survey of previously recorded archaeological sites. This method, employed

for the Gush Etzion case study (Chapter 7), included the visitation of all sites recorded in several databases in this region, while adopting a documentation procedure which included the recording of sites' location using a handheld GPS; taking photographs; and assessing each site's modern context, condition, accessibility, potential threats and main components.

The main goals of this fieldwork were the examination of each database's scope and levels of coverage; verification of site existence (above ground); examination of the accuracy of the originally recorded site location; comparison of sites' previous and current condition; enhancement of data by recording additional useful information on each site. This fieldwork can be viewed as a complementary method to the above mentioned database assessment, as it will also compare different inventories and attempt to explain the reasons for differences and similarities between them (research question 3). In addition, by enhancing currently available data in archaeological inventories with updated data, this fieldwork will demonstrate the critical importance of new, up-to-date information for further research and cultural heritage management (research question 5).

The analysis of fieldwork results will include both qualitative and quantitative investigations. For example, I will examine the ratio of sites re-discovered versus those that were not, per database (Section 7.4.1). At the same time, I will discuss each site's modern context and its relationship to local inhabitants, some issues of site management, and a range of further topics (Sections 7.4.2, 7.4.3). As noted above, this fieldwork took place in Areas B and C, i.e. excluding Area A, which is under full Palestinian control. It could be expected that the same method employed in Area A would not yield identical results. For example, Israeli databases would be expected to be less accurate in Palestinian areas. However, conducting the same fieldwork in Area A would have been legally unfeasible for me. In order to address this imbalance, the second case study will focus mainly on a Palestinian controlled area (Jericho). For more details on the different databases and spatial layers that will be examined, the maps used in the course of this survey, and other methodological information, see Section 7.2.

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#### 2.3.4 ONLINE QUESTIONNAIRE

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A questionnaire is a systematic method for gathering data from a chosen sample of

individuals via a set of questions, usually in order to better understand and describe a wider population (Fowler 2009, ix). This method was applied for the Jericho Oasis case study (Chapters 8 and 9, Sections 8.3 and 9.2), with the main aim of gaining insight into the attitudes and viewpoints of professional archaeologists and cultural heritage practitioners (who are currently working or have worked in the past in the Jericho area) towards the use of inventories and GIS for archaeological and cultural heritage projects in this region. Stakeholders' responses will contribute to a better understanding of the ways in which the political conflict influences their archaeological projects, of the ways their heritage management decisions are influenced (or not) by new access to unfamiliar data, and of the best ways to improve data management and its dissemination (research questions 3 through 5).

The specific questionnaire that was used here can be defined as a cross-sectional survey, which is a one-off survey, gathering information from a certain population at a single point in time. Since this questionnaire produces statistics, it can be viewed as a quantitative method – although it was designed to address issues that can also be thought of as qualitative. Questions in the form of a survey could be asked in different ways: in person, over the phone, by a postal survey, by e-mail, or using an online, web-based survey platform. The methods chosen for my data collection are the latter two – an online questionnaire (Mann and Stewart 2000, 66-75; Vehovar and Manfreda 2008) as a first part, and a few pdf files sent via e-mail as a second part, for reasons detailed below. Being aware of several types of software that can be used as a survey platform (Kaczmirek 2008), I chose Opinio (Opinio 2013) which is a user-friendly, reliable platform for survey design and data analysis which is commercially-licensed but free for UCL students.

There are many advantages for the use of online questionnaires in academic research, and nowadays they are considered by many to be the best survey method in terms of time and cost (Mann and Stewart 2000, 71-73). They are more affordable than other forms of surveys or interviews, which usually require the use of postage fees or travel expenses, and they are also time effective, since the process of sending questions and receiving results can be as quick as a few minutes. In addition, this type of survey typically enjoys high response rates and it is easy to ensure respondents' anonymity and privacy. Furthermore, when survey results are ready, statistical reports can be efficiently generated using the survey platform software.

Even so, online questionnaires have several drawbacks as well. To begin with, they require

respondents to have minimal computer skills, access to the Internet, and in many cases – proficiency in English. In addition, Internet users tend to be more impatient, read and respond more quickly than offline survey respondents (Reja *et al.* 2003, 161), and, as the reliability of their answers is much dependent on their ability, memory and motivation to answer questions, responses may lack accuracy. Another potential cause of inaccuracy in online surveys is their being self-administered: the process of data collection is unobserved, thus it is not possible to know whether respondents fully understood the questions (*ibid.*, 160-161). And lastly, online surveys may be badly designed, since they are often designed by those lacking appropriate methodological skills (e.g. doctoral students).

Taking into consideration the advantages and disadvantages of using a web-based questionnaire as a research method, I have decided that in my specific case, it would be more beneficial than not. Assuming all potential respondents – academics, professional archaeologists and heritage practitioners – would be very familiar with the Internet environment and are very comfortable with the English language, I concluded that no crucial technical issues should arise.

After defining the objectives for this questionnaire, the structure and design of both its parts were planned, aiming at maximal data retrieval within the limited scope of a short internet survey. When designing the first part of the survey (Section 8.3), I aspired for a balance, not demanding too much time to be spent by respondents on one hand while attempting to yield as much relevant information as possible in this short time-frame on the other. For this purpose, I decided to use both open-ended and close-ended questions: close-ended questions offer respondents a few answers to choose from, while open-ended questions allow writing a descriptive answer, without limiting respondents' choices. Open-ended questions produce more unexpected and diverse answers, avoiding the bias resulting from pre-selected answers in close-ended questions; however, they increase the chances of invalid answers, and there are higher chances of respondents skipping those questions, since they are cognitively more demanding. For these reasons, I strived to reach a compromise between the use of close- and open-ended questions.

The second part of the questionnaire (Section 9.2), having different aims, was designed differently. This questionnaire included the presentation of satellite images and spatial information, and required its respondents to draw on these images, in addition to answering questions. For these purposes, a pdf file format was chosen since the inclusion of satellite images and maps complicates the implementation of an online web survey. It

was deliberately divided into three parts, as each stage of it is significant as long as respondents were not provided with additional data from previous or consecutive sections. It was then delivered to stakeholders via e-mail as three pdf files.

It was also important to think carefully about choosing my sample of “stakeholders” – those professionals that are closely familiar with working in the region of the Jericho Oasis. This selection should be representative of the wider population of academics and heritage professionals working in the West Bank (Fowler 2009, 4). An informed selection of sample would maximise the reliability of questionnaire results and analysis, therefore I tried to make sure that my group of potential respondents are highly representative of the parties involved in archaeology or cultural heritage management. In Sections 8.3.2 and 9.2.2 I will provide more details on my sample size and chosen individuals to whom the questionnaire was sent (see also Appendices Ia and Ib for the full questionnaire design).

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### 2.3.5 CLASS-LED EXERCISE

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Another method that was employed for the Jericho Oasis case study (Chapter 9) was a class-led exercise, aiming to discover which types of archaeological, architectural and/or spatial data, if any, may affect one’s perception of a digitally presented cultural landscape, and thereby impact decision-making regarding its management (research question 4). The target audience in this case was archaeology students from Birzeit University, who were asked to dynamically browse different West Bank databases and make decisions regarding the demarcation of cultural heritage management zones.

The platform that was chosen for this exercise is Google Earth. This is a popular ‘earth viewer’, which allows 3D visualisations of landscapes across the globe. In contrast to desktop GIS software packages such as ArcGIS or GRASS, Google Earth does not allow its users to perform a variety of more complex processing functions and analyses; but, users can nonetheless visualise spatial datasets in different combinations, and can also add and/or modify their own data. For this and other reasons, Google Earth is very advantageous for delivering an exercise for students (Ur 2006). Firstly, this software can be downloaded for free, hence minimising the costs of usage. It has also become very popular and common among users, with most archaeology students and scholars having been aware of it already and/or having used it at least once. Its popularity is also due to its

simple-to-use interface, making it friendly to those who would otherwise have to struggle with GIS platforms. Moreover, Google Earth's main advantage is its interactivity. Users of this platform can add and manipulate their own data and browse it dynamically while viewing it in relation to its geographical context. Google Earth provides access to high-resolution satellite imagery that is otherwise expensive to acquire, which makes explorations more realistic, and viewing of the data in relation to its context more accurate.

Google itself promotes Google Earth as a great tool for the education sector (Google Maps Education 2013). Interactive opportunities are endless, including for example browsing through historical maps and imagery, exploring the earth's natural habitats and underwater terrain, and even traveling through the landscapes of the Moon and Mars. A geographic learning tool available through Google Earth is Juicy Geography, offering lessons for students which enable them to browse data and make actual decisions (Juicy Geography 2013). A good example is an exercise requiring participants to make decisions about the management plan of Stonehenge, where students can devise their own site plan by creating paths or demarcating visitor facilities (*ibid.*, Resources, Stonehenge decision-making exercise). Another archaeology-related example is an online course in landscape archaeology offered by the University of Cambridge, which utilises Google Earth as a teaching resource (University of Cambridge 2013).

For the purpose of the class-led exercise in this dissertation, it was important that the students are able to browse data in their own way, interacting with the archaeological evidence, the administrative datasets and the landscape. As Ur (2006, 36) points out, "greater understanding comes from self-guided interaction". Section 9.3.2 will provide further information on the different data that will be used, and will fully explain the design and structure of this exercise (see Appendix V for its full design).

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### 2.3.6 FIELD EXERCISE

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The last method that was used in this dissertation was an exercise conducted in the field, and was also targeted at Birzeit University students. In this exercise, students were asked to record the site of Hisham's Palace for the purpose of its management. By examining the choices and decisions made by different individuals in the process of documentation, this

exercise will potentially demonstrate how different priorities and personal inclinations may be introduced to the process of data collection, and thus later into inventories (research question 3).

As mentioned above, the search of cultural biases and subjective records will be thoroughly examined by exploring the publications of several archaeological surveys. However, it was thought that having students conduct a very small scale field survey while creating their own documentation according to specific instructions, would be a very good way of tracing their recording preferences right from the start. Therefore, this exercise was designed as a recording sheet, which a potential surveyor would complete in the process of documenting a site's main features, boundaries, significance, condition, and potential threats. For more details on this field exercise, see Section 9.4 (and see Appendix III for the full exercise).

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### 2.3.7 DISCUSSION

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In order to gain a broad perspective on West Bank inventories, I found it important to combine both personal assessments of existing databases and their records with the feedback and opinions of professional archaeologists, heritage practitioners, academics and archaeology students. The combination of methods chosen for this research reflects my aim of getting a few different angles and perspectives on documentation, data management and GIS use, thereby hopefully increasing the richness and credibility of my arguments. Since I am not familiar with previous cases of archaeological database assessments in academic literature, I constructed the two assessment methods from scratch and tailored them for this research. Considering the analysis of inventories, conducting both a 'desktop' database assessment and fieldwork assessment seems to be essential. On one hand, several inventorial aspects can be examined using either method, therefore examining these issues using different methods increases the validity of the findings; and on the other hand, many other database issues can be learned from only one of the two evaluations types – therefore using both types of assessments will result in more insights on a variety of inventorial aspects.

To be more specific, going through database and GIS files in order to examine their structure and contents is a critical preliminary step that needs to be taken in order to



better understand the nature of existing databases. Using a 'desktop' assessment one can recognise patterns of research priorities as well as issues of data coverage and scope. The latter could be verified via fieldwork. However, perhaps the major drawback of a desk-based assessment is that archaeological databases are often largely outdated and do not reflect an accurate image of the reality on the ground. The most comprehensive way of determining the reliability of archaeological databases is therefore by visiting sites recorded in them. This type of fieldwork database assessment may demonstrate their level of accuracy and coverage, and in addition determine sites' condition and place them in their modern context – information which is difficult if not impossible to get by browsing through database files.

The other three methods used in this dissertation, namely online questionnaires and classroom and field exercises have all previously been used in archaeological and heritage studies (e.g. Merriman 1991; Jones 2004; Keitumetse 2009; Kersel 2009; Sørensen 2009). Using a questionnaire (which is a form of an interview) is one of the ways in which one can directly interact with inventory and GIS users and ask them questions about their experiences and opinions. Similarly, exercises can also very effectively tease out students' viewpoints and perceptions. Nevertheless, aside from the clear benefits of receiving information directly from individuals, working with either professionals or non-professionals has its drawbacks.

The opinions of a well-targeted, specialised audience of professionals or academics are of utmost importance since they are based on expertise and experience working with existing inventories or GIS environments. Unfortunately, these people tend to be very preoccupied and they may not have much time to spare on answering queries for a doctoral research. For this reason, for example, it was decided *not* to send the Google Earth exercise to professionals, and instead to send them a simplified static version as pdf files. This is one of the ways through which I sought to achieve a balance between securing respondents' participation while at the same time trying not to deter them. Other professionals may be reluctant to cooperate or cautious in their answers, as demonstrated by Kersel's (2009) interviews with antiquity dealers and collectors, archaeologists, government employees and academics in the context of legal and illegal antiquity trade in Israel/Palestine.

Targeting students – or generally non-professionals – on the other hand, has its limitations as well. Students are generally not professional archaeologists or heritage practitioners;

they have little experience (if at all) in using inventories or GIS in the context of real-life archaeological projects, and therefore their non-specialist points of view may contribute less to academic research. In addition, they may not understand questions or tasks as intended, and their answers may therefore take different forms than expected, and thus be more difficult to analyse. Such were some of the experiences of Sørensen (2009) and Keitumetse (2009), distributing questionnaires and interviewing local residents in Denmark and Botswana respectively, in order to gain their perspectives on their archaeological and cultural environments. However, an ‘unprofessional’ group of individuals, such as students in my case, relies less on previous knowledge, and as such could be less biased when considering certain issues, e.g. deciding on the boundaries of management zones according to databases’ data. Their input could be invaluable, and therefore important to seek and discuss.

## 2.4 SUMMARY

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This chapter placed the dissertation within a conventional social science research framework, by exploring its design and explaining the procedures adopted to answer its research questions. Being partial to more post-positivist, relativist, subjectivist and constructivist approaches, I view knowledge and human behaviour as being socially constructed, subjective and multi-layered; therefore, people’s perceptions of archaeology and cultural heritage are also forever biased. Accordingly, I seek to understand the nature of heritage data collection and management in the West Bank, by trying to unravel the preferences, interests and agendas hidden in between site records of archaeological and architectural inventories. My philosophical views have shaped the aims, structure and methods of this research, and will inevitably forge its results, analysis and conclusions. With these overall preoccupations in mind, the next chapter will introduce several further theoretical concepts that underpin subsequent interpretation and analysis.

## CHAPTER 3. THEORETICAL APPROACHES TO ARCHAEOLOGY, CULTURAL CONFLICT AND SPATIAL RECORD-KEEPING PRACTICES

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### 3.1 INTRODUCTION

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This chapter will delineate a series of theoretical approaches that have proved relevant in this dissertation. It is divided into two major sections: the first section (3.2) introduces several specific postmodern theoretical starting points and discusses their application to the archaeological discipline and to cultural heritage management. It addresses the relationship between postcolonial agendas, as well as the rise of human rights and ethics movements, to the disciplines of archaeology and cultural heritage studies. These issues also relate to a value-led approach to cultural heritage management, which has been prominent in the last decade, as well as to the discussion of diversity and subjectivity in landscape experience and landscape perception. This overview of different general theoretical agendas is followed by a description of some more specific key concepts that, in my view, can be used as a suitable lens for the examination of cultural heritage and archaeological inventories in the West Bank (Section 3.3). Five major themes are addressed in this section: (1) social psychology theory and the creation of collective social identities; (2) colonialist archaeology and its effects on archaeological practice; (3) subjectivity or bias in archaeology; (4) theoretical issues relating to the use of Geographic Information Systems (GIS); and (5) approaches to the accessibility of digital archaeological data. The ideas examined in Section 3.3 will underpin the interpretations offered throughout this research, but especially in the discussion on Palestinian and Israeli research agendas (Chapter 4, Section 4.4) and the analysis of archaeological inventories and GIS datasets (Chapter 6).

## 3.2 GENERAL THEORETICAL CONTEXT

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### 3.2.1 CULTURAL VALUES AND HUMAN RIGHTS

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“There is no political power without control of the archive” (Derrida 1996, 4)

“Postmodernism requires archivists to accept their own historicity, to recognize their own role in the process of creating archives, and to reveal their own biases” (Cook and Schwartz 2002, 182)

As previously discussed (Section 2.2), the idea of pure ‘objectivity’ has been gradually abandoned with the advent of postmodernist thought. This demise of ‘absoluteness’ has led to a better acknowledgement of the relative nature of human *values*, i.e. what is significant, and for whom. A cultural relativist attitude would observe “multiple versions or truths seen from different standpoints” (Trigger 2006, 447), and recognise a “great diversity of morals, values, and histories” (Steele 2005, 58). Indeed, a recognition of the coexistence of diverse values stands at the core of this research and underpins much of its theoretical discussion. Thus, the term ‘value’ merits further clarification and discussion here. To begin with a traditional, perceived source of semantic authority, the New Oxford Dictionary of English assigns multiple definitions for *value*, among which are the following: “the regard that something is held to deserve; the importance or preciousness of something”; “the material or monetary worth of something”; “the usefulness of something considered in respect of a particular purpose”; “a person’s principles or standards of behavior; one’s judgment of what is important in life” (Pearsall 1998, 2043). There are different facets of *value* that can be inferred from this definition – moral, intellectual, ideological, practical and financial.

Various discussions in the anthropological literature consider the term ‘value’ and attempt to distinguish different kinds of values. Exploring the ways in which the term ‘value’ has been used by anthropologists in the past century, Graeber (2001) synthesises social, political, and economic uses of the concept. Economic theories of value refer to the worth of something in terms of *exchange* or *consumption*. Material or immaterial things do not possess a value before we ascribe them with such. When we assign a value to an object, or an idea, this value needs public recognition in order to sustain itself – value thrives on society. Value is materialised in the process of exchange, and what links a commodity with its value in the social sphere, is politics and political power (Appadurai 1986). While

Graeber explores different conceptions of value, Bevan (2007, 8-18, 2010, 2012) and Miller (2008) differentiate between *value* and *values* as two extremes (following studies such as Simmel 1900; Bourdieu 1994): On the one hand, value means monetary worth – a price; on the other, it means the exact opposite – “that which has significance to us precisely because the one thing it can never be reduced to, is monetary evaluation” (Miller 2008, 1123). In this dissertation, the term ‘value’ may embody both monetary and non-monetary aspects, though the later is the one more often referred to.

Evidently, this discussion is relevant to archaeological or heritage values. Drawing on Graeber’s economic approach, a *display of wealth* via precious objects or materials (Graeber 2001, 93-94) can be correlated with a display of cultural, ideological or religious wealth, in the form of cultural resources such as archaeological sites, monuments, or objects. The exchange here is symbolic: cultural achievement is traded upon in return to appreciation, respect, legitimacy or recognition of those to whom this culture ‘belongs’. This reciprocal transaction of emotional or intellectual gratification is virtual and not material, and is dependent on both sides (giver and receiver) sharing common social conventions and standards of evaluation.

Cultural heritage resources are also assigned values differently by different people, and there are various ways of evaluating, ranking, prioritising, or measuring the value of those resources. As previously mentioned (Section 1.4), heritage resources can be either tangible (e.g. architectural remains, objects) or intangible (e.g. oral histories, customs, traditions). Different kinds of values can be ascribed to each of these types of heritage. Thus, the general postmodern trend towards prioritising multivocality and acknowledging different values in society has also had an impact on theoretical approaches to cultural heritage management.

Nowadays, when approaching different aspects of heritage management, there is a need to be able to handle “different cultural interpretations, competing political demands, and economic influences” (Mason 2006, 28). Therefore, the main emphasis of a value-led approach is acknowledging the existence of a wide variety of values attached to intangible and tangible heritage by different communities (Avrami *et al.* 2000; Aplin 2002; de la Torre 2002; Demas 2002; Mason 2006, 2008; Smith *et al.* 2010). As Sullivan (1997, 16) defines it, the cultural value of a site is established by “the value society perceives either in it or in elements of it. The value can be aesthetic, scientific, historic, or social, or a combination of these. Other values – especially financial and educational – are sometimes

considered as well.” The recognition of these divergent values is of great importance, and is reflected in international initiatives such as the Venice Charter (ICOMOS 1964), Burra Charter (ICOMOS 1999; see also Marquis-Kyle and Walker 1994; Truscott and Young 2000) and Ename Charter (ICOMOS 2007). The range of values attached to an archaeological or cultural site defines its significance.

Since the concept of *value assessment* is what shapes the practice of cultural heritage management today, special emphasis is placed on the recognition and involvement of multiple stakeholders, including local communities and minority groups (e.g. Clark 2006; Mason 2008, 111-113). An inclusive interpretation of cultural heritage sites can be ensured by “facilitating the involvement of stakeholders and associated communities in the development and implementation of interpretive programmes” (ICOMOS 2007, Principle 6: Inclusiveness). In theory, a better engagement with the different stakeholders enables a better understanding of the significance of sites, in turn leading to more informed decision-making processes in heritage management. However, when it comes to cultural heritage ‘evaluation’ and management, practical issues may arise when attempting to balance all recognised values (Tunbridge and Ashworth 1996; Gibson and Pendlebury 2009; Poulios 2010). Therefore, archaeologists and heritage professionals have an important role in promoting, sustaining or discarding cultural values. Archaeological inventories reflect this selective preference for, or elimination of, values – an issue which will be elaborated upon in the following chapters.

One phenomenon that has been greatly influencing the creation, maintenance and suppression of heritage values is worldwide colonialism. Thus, this research is situated very clearly within current postcolonial, ethical investigations of the archaeological and heritage management disciplines (Pluciennik 2001; Zimmerman *et al.* 2003; Scarre and Scarre 2006; Hamilakis and Duke 2007; Shanks 2008, 141-142; Meskell 2009; a more elaborate overview of archaeological colonialism and postcolonialism will be covered in Section 3.3.2). Studies employing a postcolonial approach examine the “nature of cultural identity and gender, [...] concepts of nationality, race and ethnicity, the constitution of subjectivity under conditions of imperialism and questions of language and power” (Edgar and Sedgwick 2008, 251). Therefore, this dissertation critically engages in the deconstruction of archaeological knowledge production, following the global trend of promoting indigenous archaeological practices (such as Smith and Wobst 2005; Nicholas and Hollowell 2007; Habu *et al.* 2008; Bruchac *et al.* 2010; Lydon and Rizvi 2010). More broadly, this research aims at a better understanding of the role of modern political

context in the way archaeology is practiced (Gathercole and Lowenthal 1994; Meskell 1998; Kane 2003; Smith 2004; Hamilakis and Duke 2007), and the relation between power structures and archaeological knowledge (Preucel and Hodder 1996).

Speaking from this ethical viewpoint, the chapters that follow engage with a more general discourse about the topic of human rights and its relationship with the archaeological and heritage management professions (O’Keefe 2000; Matua 2002; Silverman and Ruggles 2007; Langfield *et al.* 2010; Logan *et al.* 2010). Concepts of human rights are closely linked to the acknowledgement and promotion of diverse cultural values in society. This relationship has been addressed by various UN resolutions, such as the 1948 Universal Declaration of Human Rights, claiming that everyone is “entitled to realization... of the economic, social and cultural rights indispensable for his dignity and the free development of his personality” (UDHR 1948, Article 22; see also ICESCR 1966, Part 1, Article 1(1); Part 3, Article 15(1)). The 2005 Faro Convention has further elaborated on this issue, maintaining that “everyone, alone or collectively, has the right to benefit from the cultural heritage and to contribute towards its enrichment” (Council of Europe 2005, Section 1, Article 4(a); see also Preamble; Section 1, Articles 3(b) and 6(a)). Fundamentally, maintaining and promoting cultural diversity means enforcing and protecting basic human rights. Discussions of values and identities describe, in essence, “an almost inviolable right to existence” (Rowlands 1994, 131).

Perhaps human right issues relating to cultural heritage which are most relevant to this research are those defined by Farida Shaheed in her recent report to the UN General Assembly:

“Human rights issues related to cultural heritage... include questions regarding who defines what cultural heritage is and its significance; which cultural heritage deserves protection; the extent to which individuals and communities participate in the interpretation, preservation/safeguarding of cultural heritage, have access to and enjoy it...” (Shaheed 2011, Article III(9)).

Especially relevant here is the basic human right to access cultural heritage in general, and heritage information in particular. It is people’s right to be informed about the “existence, significance and background of diverse cultural heritages” and the “debates surrounding the interpretation to be given to cultural heritage” (Shaheed 2011, Article D(47)). More

specifically, everyone should have access to heritage information, following their right to “seek, receive and impart information on cultural heritage, without borders” (*ibid.*, Article V(60)). Issues of accessibility to data will be returned to below, in Section 3.3.5.

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### 3.2.2 PERCEPTION OF LANDSCAPE

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The discussion above leads this overview to another aspect of cultural heritage management and archaeology that has been strongly influenced by postmodernist thought: the diversity of human landscape perceptions. Continuing with a relativist line of thought, it is important to highlight the subjectivity of the term landscape and the variety of ways in which individuals or social groups can perceive or experience their environment. Before discussing spatial theories, it is worth clarifying that in what follows I am referring to present-day perception of past landscapes, and not the study of past societies’ perceptions of their own contemporary surroundings. More precisely, this theoretical overview aims at formulating a background for the examination of the perception of archaeological and historical landscape as they are held by heritage professionals and archaeologists. This type of investigation, looking into perceptions of present-day local communities and heritage practitioners of the archaeological landscape, has been increasingly popular in recent years (Doukellis and Mendoni 2004; Hicks *et al.* 2007; McCarthy 2009). Some landscape theories that are already popular in the archaeological discipline will be employed here, in order to better explain present-day heritage practices and the diversity of conceptual, sentimental and political relationships between people and their geographical surroundings.

Promoting a phenomenological approach to landscape, Tilley (1994) advocated a social-constructivist view of space. According to him, space “cannot exist apart from the events and activities within which it is implicated” (*ibid.*, 10). Therefore, space or a landscape should be conceived of as a *medium* rather than an invisible container for human activities. The social space is not a neutral, universal entity that can be measured, visualised or represented objectively, but a contextual, subjective and ever-changing environment. The concept of space, according to Tilley, “depends on who is experiencing it and how” (*ibid.*, 11). In fact, the concept of landscape can be thought of as a duality of the tangible and the intangible (Doukellis and Mendoni 2004, XI). The ‘tangible’ is represented by physical places, while the ‘intangible’ is their symbolic substance – the thoughts, feelings and



perceptions that people project upon them. The combination of actual places with the human experiences of them constitutes the *space* (Tilley 1994, 14-15).

Landscape is therefore a concept that may be perceived very differently by various people, depending on their gender, age, ethnicity, social background and so on. The concept is not an absolute or universal one, and therefore there cannot be a “definitive way of apprehending the world” (Thomas 1993, 20). People project their own experience and knowledge of places when they look at or walk through a landscape (Tilley 1994, 26), so that seemingly absolute, physical and finite characteristics lose their significance. Thomas (1993, 2001), presenting his theory of landscape and its perception, refers to the difference between perception by the sense of sight and perception by other senses, feelings and thoughts. He terms the tendency to over-prioritise the visual or visible over the alternatively sensed and experienced as *specular bias*. One of his main distinctions is between the West and the East, asserting that the western concept of landscape is “predominantly a visual term, which denotes something separate from ourselves” (Thomas 2001, 174). This western approach to landscape started to evolve with the development of landscape art during the Renaissance, embracing a modern aspiration to represent landscape visually. Thomas makes a plausible comparison between the artistic representation of landscape, leaving its observer gazing from the outside (but still being able to situate themselves with respect to that landscape), and the cartographic representation of archaeological landscapes, transforming a three-dimensional and multi-sensorial landscape into a two-dimensional simplified version of it, viewing it from top down (Thomas 1993, 21-22; 2001, 168-170).

Taking inspiration from hermeneutic and phenomenological approaches to perception and the representation of landscape, both Tilley and Thomas identify one significant consequence of the relativity of human perception. Inevitably, the perception of landscape as it is held by socially or politically dominant groups will take precedence over the perception emanating from weaker groups in society. As Tilley (1994, 20) puts it, “[i]f space is regarded as a medium for action, a resource which actors draw on in their activity and use for their own purposes, it inevitably becomes value-laden rather than value-free and political rather than neutral”. Similarly, Thomas (2001, 166) asserts that the term ‘landscape’ “brings a series of resonances with it, sensuous experience and coercion, aspiration and inequality”. A dominant social group is more able to impose its own concept of a landscape, and decide what is important or unimportant within it. Therefore, the issue of landscape perception has a significant political dimension, as it relates to the

creation of national and social identities, and the maintenance of cultural and political power relations (Bender 1993; Mitchell 2002; Doukellis and Mendoni 2004, XIII). This issue relates to colonialism and Western cartographic practices, which will be discussed in Section 3.3.2.

This conceptual bias in favour of the outsider, the western, the dominant, and the powerful individual can be translated into the way in which archaeologists and heritage professionals view or represent a landscape (Thomas 1993, 25). The archaeologist's view of an archaeological landscape may be quite remote from the way this landscape's inhabitants view it, assigning highest importance to boundaries of archaeological sites and environmental aspects that may have affected the 'behaviour' of these sites in the past. This choice made by the archaeologist about what is significant in a landscape is a sort of "intellectual appropriation" (*ibid.*), reflecting the relation between power and the creation of knowledge. In his discussion of the biased way in which the archaeologists 'create' and represent their own ideal landscape, Thomas also refers to the use of GIS as a specular-biased means of presenting and investigating the archaeological landscape (*ibid.*). This claim, as well as other theoretical issues relating to the use of GIS by archaeologists and cultural heritage practitioners, will be discussed in Section 3.3.4 of this chapter.

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### 3.2.3 SUMMARY

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To sum up the discussion so far, concepts of knowledge production and their relation to cultural power and political dominance stand at the core of my dissertation. This research is one of many reflexive, critical and accountable efforts to better understand the role played by the past in the present. In addition, this overview also introduced the question of subjective landscape perception as background for a later discussion of the effect of conceptual relativity on the use of GIS for managing cultural heritage. These issues too have social and political implications, as those managing an archaeological landscape may perceived it very differently from people actually living there. This "intellectual appropriation" is yet another example of the relation between power and knowledge. Archaeological inventories reflect data compiled in certain social, economic and political circumstances. By deconstructing these inventories, this research aims at understanding the epistemological nature of this knowledge and underlying the diverse conflicting cultural values they represent, promoted by different communities in the West Bank. The

following sections discuss some specific theoretical concepts, which will be applied in the overview of contemporary Israeli and Palestinian research agendas in the next chapter, and in the analysis of inventories and GIS layers in the following chapters of this dissertation.

### 3.3 THEORETICAL CONCEPTS AND CULTURAL HERITAGE MANAGEMENT

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It is now worth taking a first step towards demonstrating the conceptual relationship between five main issues and the use of Israeli and Palestinian cultural heritage inventories in the West Bank. The first subject to be discussed is the creation of dissonant collective identities in general (Section 3.3.1) and in the context of the Israeli-Palestinian conflict in particular (Section 3.3.1.1). The second issue will be the effect of a region's colonial past and present realities on archaeological and cultural knowledge production (Section 3.3.2). The third topic to be discussed is selectiveness and subjectivity in the practice of archaeology and cultural heritage management (Section 3.3.3). The fourth section will examine some theoretical concepts relating to the use of GIS for archaeology and heritage management (Section 3.3.4). And in the fifth and final section, approaches to dissemination and accessibility of digital archaeological data will be discussed as well (Section 3.3.5). In the following chapter, these concepts will then be given more concrete form in a discussion about Israeli and Palestinian archaeological research agendas (Section 4.4), and thereafter (mainly Chapter 6) they will be discussed in the context of particular West Bank inventories.

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#### 3.3.1 SOCIAL IDENTITY THEORY

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One body of thought that I wish to apply in this research can be referred to loosely as social identity theory, and based on the assumption that human identities are forged as “a response to something external and different from it (an ‘other’)” (Edgar and Sedgwick 2008, 167). The theoretical approach discussed here refers to one's affiliation with a group and relations within and beyond that group, based on “self-categorisation, social comparison and the construction of a shared self-definition in terms of ingroup-defining properties” (Hogg and Vaughan 2008, 407). One of the key ideas that this body of theory

highlights is the cognitive and motivational basis of intergroup differentiation, followed by the formation of collective identities (Tajfel and Turner 1979, 1986; Turner *et al.* 1987).

According to the above approach, an individual possesses different levels of identity, by which they can define themselves as members of different social circles. These levels of identity are composed of diverse perceptions, behaviours and attitudes to life, as well as a series of value systems made up of cultural sentiments, ethnic affinities, religious beliefs, and political or national ideologies. By this means of self-referencing, a person strengthens their sense of belonging and enhances solidarity with their social surroundings, while at the same time distinguishing themselves from other individuals and social groups (Hogg and Vaughan 2008, 408).

These ideas draw upon concepts of 'large-group identity', developed by the psychoanalyst Vamik Volkan (2001, 2003). He suggests that the establishment of large-group consciousness involves creating collective national, religious and/or ethnic narratives as well as historical events or myths that unite the group through 'chosen traumas' or 'chosen glories'. Collective traumas have the "weight of a notion of shared experience of pain, oppression, death, etc" (Russell 2006, 188), bonding the social group together, maintaining and protecting it.

This creation of collective identities and *legacies* (Lowenthal 1998, 55-87) is a fundamental feature of living in a society, providing the individual with self-definition and an understanding of what social and cultural membership entails (Kenny 1999, 420). One important aspect is the formation and sharing of *collective memory* – of a social and cultural memory (e.g. Fentress and Wickham 1992; Erll and Nünning 2008). The sociologist Maurice Halbwachs (1992, 38; see also 1980) claimed that "it is in society that people normally acquire their memories... [and] recall, recognize, and localize their memories" and argues that individuals acquire their memories through the social groups in which they participate, especially by affiliation to family, religion and social class. These social structures provide individuals with a mental space in which they can locate and sustain their memories (Connerton 1989, 36-37; Kenny 1999, 421), being created through "the predominant thoughts of the society" (Halbwachs 1992, 40). One practice that helps to build collective memory is historical reconstruction – a cultural recollection of tradition and historical narratives, the transmission of which is inevitably "contextual, partial, and subject to self-interested manipulation and obfuscation" (Kenny 1999, 425).

The construction of a social identity can often be based on someone's psychological and emotional attachment to cultural heritage and the way one perceives themselves as belonging to such heritage (Lowenthal 1985; Russell 2010). The concepts of group identity and heritage values are intertwined, since heritage values can only be meaningful in those situations where they are "unifying and transcendent [...] constitutive of a sense of personal and group identity" (Rowlands 1994, 130). Volkan (2001, 2003) expressed this link between identity and heritage as a *transgenerational transmission* in which traditions, narratives, myths and memories provide affirmation, legitimisation and authenticity (Russell 2010, 33). In turn, such transmission also transforms physical spaces into heritage places possessing cultural significance, as one of the ways in which modern societies use heritage to confirm and sustain their social identities (Ashworth *et al.* 2007).

Therefore, ideological, religious or national interpretations are often projected onto the archaeological record. This is probably the main reason why archaeology matters to people – the sustenance of a solid bond between cultural or historical narratives and people's collective identity. When the "collective" is a country or a nation, nationalism may be introduced to the archaeological discipline (e.g. Meskell 1998; Kohl and Fawcett 1995). "Nationalism presents itself not simply as a political phenomenon, but also as a matter of cultural identity" (Edgar and Sedgwick 2008, 220), therefore it aims to enhance national pride and patriotic feelings of unity by glorifying and celebrating the national past (Trigger 1984, 358-360). The main role of nationalistic archaeology is to "bolster the pride and morale of nations or ethnic groups" (*ibid.*, 360) as well as to increase national cohesion and confidence<sup>1</sup>. This is often done by appropriating the artistic, architectural and other creative cultural achievements of "the ancestors", and making certain civilisations and their cultural legacies of central importance. In this way, amongst others, archaeology and heritage enable the creation and strengthening of collective social identities, and the latter, as demonstrated below in the case of Israel/Palestine, may then be of critical significance to contemporary political contexts.

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<sup>1</sup> The misuse of archaeology by communities as well as by professional archaeologists to prove ethnical continuity and legitimise nationalist territorial claims has been heavily criticised, see for example Jones 1997.

### 3.3.1.1 SOCIAL IDENTITIES AND THE ISRAELI-PALESTINIAN CONFLICT

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The coexistence of multiple social identities is an intrinsic part of the Israeli-Palestinian conflict, to the extent that we can probably define the latter as an *identity-based conflict* (Kriesberg 2003). Indeed, some of the above mentioned social psychology theories have been applied in the field of international relations (Huddy 2001; Hymans 2002), and specifically to the Israeli-Palestinian conflict (e.g. Kelman 1999, 2001; Pilecki *et al.* 2010). While the conflict continues to be influenced and shaped by a combination of causes, Kelman points out that it is a “protracted, deep-rooted conflict between identity groups” (Kelman 1999, 583), and that “threat to collective identity is a core issue” (Kelman 2001, 191). Put simply, the Israeli-Palestinian conflict has developed from, and is sustained by, a failure to bridge dissonant identities.

Retaining a clear identity is often suggested to be a basic universal human need, alongside security and recognition; leaving those needs unfulfilled may therefore lead to intractable social conflicts (Burton 1990). This is the case with the Israeli-Palestinian conflict, which emerged during the 19<sup>th</sup> century with the arrival, in an already inhabited Palestine, of Zionist Jews whose ultimate goal was the establishment of a Jewish state in that territory (Avineri 1981). Palestinian identity, the creation of which was triggered by the 1834 revolt against Egyptian conquest (if not before, see Kimmerling 2000; Al-Ju’beh 2008b, paras. 5-20), went through an intense formative process during the inevitable clash between the local Arab population and the new Zionist arrivals (Khalidi 1997). As al-Ju’beh duly states, social *identity* or *identities* are complex and versatile entities, which exist on multi-dimensional levels that can be cultural, religious or territorial, familial or national, and are prone to radical transformations in times of conflict or war (Al-Ju’beh 2008b, paras. 2-5).

For the sake of this overview, a more complicated mix of Palestinian and Israeli identities will sometimes need to be simplified in order to explain the general dissonances relevant to this research. Essentially, the conflict is between the Palestinian and Zionist national movements, each feeling a strong sense of belonging and sentimental attachment to the same land, both regarding it as their national homeland. This relationship to the land is perceived as “exclusive in the national narrative through which each people’s identity is expressed” (Kelman 1999, 588), and is especially delicate in relation to cultural spaces such as religious, archaeological and historical sites.

The traditional and historical Zionist assertion of *Eretz Yisrael* (the Land of Israel) is deeply rooted in Jewish thought and spiritual aspirations, and it has established the conceptual and political foundations for contemporary Zionism (Nisan 1978, 42-43). It has become part of the diasporic Jewish identity to highlight a collective yearning to return to their homeland after two millennia of being scattered and oppressed. Their aspirations of statehood can be crudely divided in two aspects, which are sometimes viewed as one: a perceived divine right of the Jewish people to the land, and a perceived historical claim to it. Some Israelis view the territory of Israel/Palestine as their historical homeland, as seemingly documented by biblical narratives, and hence that they have the right to establish a Jewish state wherever ancient Israelites used to reside (Silberman 1995). For the more religious sects, this land is also God-given, promised distinctively to the Jews, and its attainment would bring them closer to redemption by the Messiah. These territorial ambitions were further amplified by the Israeli occupation of the West Bank, and especially by the conquest of East Jerusalem and its annexation to Israel. The Jews' collective memory and longing for their historical capital were rekindled by the occupation and subsequent access to sites of religious importance, whose symbolism and sanctity were deeply ingrained in Jewish myths and historical narratives (Nisan 1978, 43).

The Palestinians, on the other hand, also have a very strong sense of belonging to and legitimate possession of the same region, claiming their right to independence and settlement based on a continuous presence across the region in recent times. Their 'indigenoussness' may be perceived to start at different points in history, before or after the Arab/Islamic conquest of Greater Syria (the Levant). For example, Palestinian existence as a distinct ethnic group or set of tribal communities may conceptually be traced back to the local population of Canaan at the time of the Israelite arrival and settlement; to the Philistines inhabitation of the coastal plain; or to the local residents of the land in the Roman period. The Palestinians can also be characterised as being the "result of accumulated ethnic, racial, and religious groups, who once lived, conquered, occupied and passed through this strip of land" (Al-Ju'beh 2008b, para. 14). The Arabisation process, starting in the 7<sup>th</sup> century with the Islamic conquest of Greater Syria, laid the foundation for the Arab identity espoused by local populations (Sonn 2004, 24-27), an identity with which Palestinians would still associate themselves today. Palestinian self-definition and consciousness was further bolstered by the direct clash with Israel, rising "against the background of Israeli rule and disenchantment with the Arab states" (Nisan 1978, 117).

Discussing the psychological nature of the creation and possession of national identities, Said points to the link between the existence of two separate historical narratives and the sensitive and emotional aspects of archaeology in the West Bank (Said 2003, 49). The incompatibility of these historical narratives and collective identities shapes and nurtures the conflict between the two sides, the topic of archaeology being an inextricable part of it. Many archaeological and historical sites in the West Bank and East Jerusalem convey cultural or religious significance, such as Joseph's Tomb, Bethlehem and Rachel's Tomb, the Holy Sepulchre and the Nativity Church. Some sites are claimed as holy by both sides, such as Hebron and the Cave of the Patriarchs/Ibrahimi Mosque and the Temple Mount/Haram esh-Sharif (Silberman 2001; Gonen 2003). Since archaeology and cultural heritage are highly sensitive matters for both groups, there have been many clashes and acts of vandalism over the years that have a noticeably cultural, religious and/or ideological background. Two infamous 'official' provocations on the Israeli side are the opening of an ancient tunnel for tourists along the Western Wall in September 1996 (Fraser 2004, 148), resulting in severe riots with many casualties, and the Israeli head of opposition's visit to the Temple Mount/Haram esh-Sharif in September 2000, catalysing the Al Aqsa Intifada (second Intifada; *ibid.*, 155). Other examples of attacks on religious and/or cultural grounds abound, such as the Palestinian attack on Joseph's Tomb (Shragai 2003), the graffiti applied to Joshua's Tomb (Jerusalem Post 2010), an attack on the "Shalom al Israel" synagogue in Jericho, hundreds of incidents at Rachel's Tomb (Shragai 2007), and mosques vandalised or set on fire by Jewish settlers (BBC News 2010). Throughout this research, I will argue that this contested nature of archaeology and cultural heritage in the West Bank has had a significant effect on the formation of archaeological research agendas in the region (see Chapter 4), and in turn promotes clear faultiness of subjectivity and bias in archaeological and other cultural heritage inventories (see Chapter 6).

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### 3.3.2 COLONIALISM AND ARCHAEOLOGY

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"What constitutes the archive, what form it takes, and what systems of classification signal at specific times are the very substance of colonial politics" (Stoler 2002, 92)

"In the differing contexts of nationalism, development, and the postmodern, we encounter the silences and gaps in archaeological explanations that determined which sites are excavated, what kinds of artefacts are privileged in the legitimizing of expert archaeological knowledges" (Rowlands 1994, 141)



The promotion of certain archaeological interpretations and the silencing of others is one of the main manifestations of control over archaeological knowledge production. Highlighting the relationship between control over knowledge and identity creation, Pollock asserts that “control of the past and its interpretation is a source of power in the present” (Pollock 2005, 81). In this section, I aim to conceptualise another factor that may affect archaeological research agendas, and in turn inventory-making, and that is the impact of colonialism on archaeological practice. By way of clarification, this discussion deals with archaeological colonialism (i.e. the ways in which current archaeological practices are affected by modern colonial endeavours), and not with colonial archaeology (i.e. the study of past colonial endeavours, as they are manifested in the archaeological record; e.g. Lyons and Papadopoulos 2001; Gosden 2004; Stein 2005). Trigger (1984, 360) refers to archaeological colonialism as the practice that was developed where European immigrants settled among native populations or where they “remained politically and economically dominant for a considerable period of time”. This dominance has significant implications for archaeological practice: lack of acceptance of different interpretations and worldviews, asymmetrical power relations reflected in unequal distribution of research resources and capital, as well as an imbalance of control over knowledge production (Nicholas and Hollowell 2007, 63-66).

Archaeological knowledge production has been, and by and large still is, a reflection of powerful, modern, Western societies who often remain surprisingly unaware of the priorities of indigenous communities, minority groups and less well-resourced societies. This *hegemonic knowledge* is “created to serve the interests of the most powerful, conservative, and usually the male members of society” (Trigger 2006, 447), and archaeological practices generally take place within politically and economically dominant *hegemonic structures* (Bernbeck and Pollock 2004; Starzmann 2010), in the forms of governments, academic institutions and other organisations. Much of our modern day archaeological discipline is based on Western practice stemming from the European Enlightenment, operating in colonial and imperial contexts, and promoting Western political, social and ideological interests (Pollock and Bernbeck 2005; Pollock 2010). One example of such Western practice is cartography – the mapping of landscapes. During the 19<sup>th</sup> and early 20<sup>th</sup> centuries, European colonial powers had been conducting geographical surveys and creating maps of their newly acquired colonies, which were considered, until then, *terra incognita*. Cartography and colonialism, therefore, went hand in hand right from the start, as the colonisers asserted their political power by drawing and defining

their areas of control and features within them. Not mere objective representations of space, these maps helped the colonisers to define the significance of the colony and expropriate land rights – and by that, express their control and power.

Worldwide cases of archaeological colonialism are abundant, the earliest example of which was perhaps in the United States, where European newcomers settled among Native Americans (Lightfoot 2005). There are many other examples of countries and regions experiencing colonial archaeological practice, such as Canada (Nicholas and Andrews 1997), Australia (Russell and McNiven 1998; McNiven and Russell 2005), New Zealand and other parts of Oceania (Torrence and Clarke 2000), Latin America (Pagán-Jiménez 2004; Vilelli 2011), South (Chakrabarti 2010) and East Asia (Mizoguchi 2010), North (Keenan 2002; Munzi 2004), Central and South Africa (Hall 1995; Schmidt 2009; Infantini and Poloni 2010), as well as the Mediterranean (van Dommelen 1997) to name just a few regional cases. Near Eastern archaeology is also colonialist in nature, since this region is identified by many as the ‘cradle of [Western] civilisation’, and therefore its archaeological heritage is appropriated and glorified by outsiders (Bernbeck and Pollock 2005, 43-44). The accumulation of archaeological knowledge fuelled the power of colonial states, which were, as Stoler (2002, 100) puts it, “first and foremost information-hungry machines”.

Pollock and Bernbeck (2005, 6) distinguish two types of early Western interests in the archaeological heritage of the Middle East: colonialism and the Bible. The former’s main characteristics are (1) the removal of archaeological findings from their original location (e.g. their transport out of Iraq, Egypt or Greece) in order to exhibit them in European museums, and (2) the collection and categorisation of data with the intention of maintaining control over archaeological knowledge. This includes, as mentioned above, mapping, as the British Palestine Exploration Fund (PEF) made a remarkable effort in conducting thorough surveys and creating detailed maps of Palestine (see Section 4.4.1). The other aspect of Western interest, namely biblical motivations, took the form of exploratory expeditions seeking biblical sites in order to corroborate biblical narratives. The case of Israel/Palestine, as will be discussed in the following chapter, is a combination of both types of interest.

As mentioned above, one of the impacts of colonial practice on archaeological knowledge production is an imbalance of power between the coloniser and the colonised. This asymmetry is reflected in the unequal formation of intellectual *authorities* and an unequal

access to information (Hamilakis 1999, 66), and can be expressed through technological or linguistic constraints (Pollock 2010, 215). The assumption of literacy and the use of a Western language for formal acts of documentation, as well as the use of modern technologies such as personal computers and the Internet, are practices that may exclude large parts of the local population from participating in the production of cultural knowledge. These practices include those who are powerful anyway, providing archives with “the power to make records accessible to a public that is in itself empowered by that very access” (Schwartz and Cook 2002, 15). This imbalance can also be translated into various kinds of archaeological and heritage inventories, and is manifested in what Trouillot termed *archival power* (1995, 52), meaning institutional power and dominance over resources and knowledge production. The archives “convey authority and set the rules for credibility and interdependence; they help select the stories that matter” (*ibid.*). But these archives or inventories reflect not only the narratives that are emphasised, but also those that are subdued or excluded. These silences are introduced to the process of knowledge production at different stages: when selecting the data, when assembling the data, and when communicating the data; thus “any historical narrative is a particular bundle of silences” (*ibid.*, 27).

The subject of ‘the archive’, the power it possesses, and its effects on human knowledge has been discussed by cultural theorists such as Michel Foucault (1972) and Jacques Derrida (1996), with further scholars from different disciplines having referred to these discussions in their own examinations of ‘archival power’. Butler (2009a, 2009b), for example, refers to Derrida and Said in the context of the representation of Palestinian cultural heritage within the current political conflict. Derrida (1996, 7, 12) debates the *violent* aspect of the archive and the concept of *archival fever*, which is manifested in the cultural tension between Jewish settlers and Palestinian inhabitants (Butler 2009a, 58; 2009b, 244-245). In *Orientalism*, Said (1978) criticises the Western *archival impulse* when encountering the ‘Orient’, desiring to rule, control and appropriate knowledge “via the ‘new’ sciences of cartography, mapping, surveying, excavation, that together are used as the resource to enframe landscape and to claim ancestry, authority and possession” (Butler 2009b, 239). The archival power of the Western Empire is also portrayed in Richards’ *Imperial Archive* (1993). Drawing upon Foucault, he views the archive as “the principle model for imagining this interface between knowledge and the state” (Richards 1993, 14).

The theoretical and practical aspects of archival power have also been discussed in the recent literature on archival studies (e.g. Hamilton *et al.* 2002; Jimerson 2009). Exploring archival practice from a postmodern perspective (Cook 2001, and bibliography within), there is a growing realisation that archivists are not objective and neutral, and that archives wield power (Schwartz and Cook 2002). Archival postmodernism can be characterised as concentrating on “the context behind the content; on the power relationships that shape the documentary heritage... as being more important than its informational content” (Cook 2001, 25). Who controls the archive is in a paramount position, having the “power to make records of certain events and ideas and not of others, power to name, label, and order records to meet business, government, or personal needs, power to preserve the record, power to mediate the record, power over access, power over individual rights and freedoms, over collective memory and national identity” (Schwartz and Cook 2002, 5).

Understanding the need to confront this important aspect of the archive, ‘Archives, Records, and Power’ was the subject of two thematic issues of the journal *Archival Science* (Volume 2, Issues 1-2). O’Toole, looking into the relationship between record-keeping and socio-political power, fascinatingly illustrates the power of recording through the story of the conquest of Mexico (O’Toole 2002, 45-46), a description that well exemplifies Derrida’s idea of the ‘violent’ archive (1996, 7). Two articles in these special issues specifically tackle archival power from the colonial perspective. Anthropologist Ann Stoler (2002) studies the colonial politics of the Dutch East Indies through the examination of archives of the Dutch administration in the Indies (19<sup>th</sup> and early 20<sup>th</sup> century; see also Stoler 2009). Archivist Verne Harris (2002) reviews South Africa’s state archives in the context of its shift from apartheid to democracy (see also several articles in Hamilton *et al.* 2002; Harris 2007). Both studies portray the power of the authorities to promote particular narratives and shape the archive as they see fit, while marginalizing and silencing the colonised, whoever they wish to define as the “other”.

This exclusion of unarchived narratives may stimulate a reaction on the part of those who are being silenced. Scham (2001, 191-201) introduces four models explaining archaeological practice amongst disenfranchised social communities. First, she suggests that the research agendas established by colonised communities may be influenced in different ways, in what she terms the ‘Archaeology of the Colonised Model’. Actions taken by these communities aim to highlight the imbalance of power as well as to establish their own cultural identity. Another conceptual category defined by Scham is the ‘Heritage Pride

Model', usually demonstrated when a contemporary society attempts to establish a direct relation between itself and a glorious cultural past, in order to accentuate its present-day significance. The 'Heritage Recovery Model' is the third suggested category in which there is a conspicuous need to salvage and restore a cultural heritage that has been marginalised in the past and/or that is still perceived as endangered in the present. The last model presented by Scham, the 'Reaction/Resistance Model', is closely related to the first one, emphasising a "need to counter the dominant cultural paradigm" (*ibid.*, 201). Scham's distinction between the different manifestations of archaeological practice of the disenfranchised is perceptive and insightful, and thus can be applied to Palestinian archaeology (Section 4.4.3) and inventory-making (Section 6.2.2).

It may be argued that, by and large, the archaeological discipline is postcolonial in theory, but in practice it operates within rigid educational structures, and on a larger scale within diverse socio-political contexts. There is no real equality between different *archaeologies*, partly due to the frameworks through which knowledge is being produced, interpreted and accessed. This structural colonialism is not only evident in the commonplace lack of engagement of archaeologists with indigenous communities, but also among archaeologists themselves, who approach the archaeological discourse from different perspectives and backgrounds. The next chapter will examine the impact of colonialism and the power of hegemonic structures and intellectual authorities on Israeli and Palestinian archaeological research agendas (Section 4.4). This discussion will also include the application of each of the different models of the 'archaeology of the disenfranchised', as suggested by Scham, to the Israeli-Palestinian case.

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### 3.3.3 SUBJECTIVITY OR BIAS IN ARCHAEOLOGY

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Subjectivity is intrinsic to the archaeological discipline, and exists at every level of archaeological work. To start with, the archaeological record available to us is fragmentary and represents only a small fraction of what really existed in the past. Thus, when approaching archaeological research, we deal with what survived via natural transformations or anthropogenic processes over time. Then research-related choices are made, starting with the questions posed by, and the general aims of, the planned archaeological fieldwork project. Further choices are involved in the ways the project is conducted: the types of data that are collected and the way documentation proceeds.

Thereafter data is analysed and interpreted, published and presented and yet more choices and selections are made at every stage. In his article about cultural bias in Palestine, Glock (1995, 49) provides a good description of archaeological bias: "In general terms, bias is produced by uneven sampling of total data possibilities. Translated into the practical terms of field archaeologists, this means that we excavate and save only what we think is important. Further, it is only what we save that we analyze, classify, and describe – and this only in the terms that we inherit".

Glock alludes here to the cyclical nature of inherent bias: data is collected, investigated, presented, and then further data is collected on the basis of that data, and so on. Old data and new data are "constantly re-articulated in relation to each other" (Tilley 1989, 106). This is not exclusive to the field of archaeology, and for example, Foucault also states, with reference to the discipline of history, that "[h]istorical descriptions are necessarily ordered by the present state of knowledge" (1972, 5; see also Trouillot 1995, 55). Studying the past in general, relies on basing oneself on previously known information, which was collected in the first place because someone considered it important (Swartz Dodd and Boytner 2010, 8). This may result in a "little more than a quantitative expansion of knowledge and the perpetuation and perhaps deepening of bias as an acquired scholarly tradition" (Glock 1995, 49).

The realisation that archaeological data is always subjective, selective and biased is not always obvious among practicing archaeologists, with the latter often claiming that they are objective, scientific and/or neutral. As a consequence, archaeological data may be perceived as a mere 'fact', the authentic and indisputable evidence of the past, an infallible truth. Paradoxically, since in reality this 'truth' is only a fragment of the past, narratives are an important means by which people seek to fill in the gaps, create a bigger picture, and make sense of that material evidence (Swartz Dodd and Boytner 2010, 4-5). This manipulability of archaeological data points to similarly problematic aspect of heritage in general: the false assumption that there can be universally accepted and finitely listable, heritage resources, which can be successfully collated into an all-inclusive inventory (Tunbridge and Ashworth 1996, 9). But archaeological and other cultural heritage inventories are partial and represent a fragmented reality. As Hamilakis (1999, 74) points out, archaeologists are realising that "'the truth is *not* out there' waiting for them to retrieve it, and that what we call the archaeological 'record' is not pre-existent as such and entrusted upon them but produced by disciplinary practices and discourses on identity".

Hamilakis differentiates here between two types of *agents* leading to bias in the archaeological record: ‘disciplinary practices’ and ‘discourses on identity’. The first type of bias agent relates to archaeological methods of data collection or analysis, as well as other issues inherent to the discipline (e.g. some artifacts are collected more diligently than others; some archaeological layers are sieved and others are not; etc). The second type of bias agent relates to the socio-political and cultural background of the researcher, the academic or funding institution, or any other entity having an influence on the decision-making behind an archaeological project (e.g. promoting certain research agendas; applying certain interpretations to archaeological discoveries; etc). This latter type of agent produces what I would term *value-based bias*. Both types of agents can be either intentional or unintentional, and are generally entwined and influence each other. Thus, any decisions made during archaeological data collection (whether archival, through fieldwork or via advanced technological means), may stem from issues inherent to the discipline, from research-related compromises such as time and money, or may be generated by particular research agendas and interests. When analysing the different databases for the West Bank, I will focus primarily on the second type of bias (value-based). Nevertheless, the first type of bias, stemming from methodological concerns or research-based constraints, will be described here in brief (and will be referred to again in later chapters [e.g. Sections 4.4, 5.2]) to make the above distinction clearer.

As in any project or initiative, be it academic or not, time and money are always prominent constraints when it comes to archaeological work. As Greenberg (2008b, 108) terms it, there is a *functional compromise* involved in much archaeological fieldwork that is “characterised by conceding a certain scientific element in return for the option to excavate”. We can never excavate, analyse and publish everything, so we make compromises about an excavation’s scope, about the depth and types of scientific analysis we employ, and about the extent of our publications (Barker 1993, esp. 72-139; Carver 2009, esp. 113-150, 315-331). Selectiveness starts here, where we have limited control over unfortunate practicalities such as project duration and funds. This is especially true for salvage excavations, surveys and CRM projects, aimed at mapping areas and documenting archaeological or architectural resources, which have to be “completed on time and on budget and this may constrain how much detail will be sampled, recorded and reported” (Kansa *et al.* 2010, 305). Nonetheless, having to define specific areas of interest and a meaningful research agenda prior to excavation can be viewed as a positive thing. Roskams (2001, 30-39) advocates selectiveness by supporting problem-oriented excavations while disapproving of ‘total excavations’, which aim to expose sites at their

entirety, with no specific focus of study. According to him, “problem orientation in excavation is not just an unfortunate result of insufficient time and resources... but a fundamental aspect of the process of archaeological investigation” (*ibid.*, 35).

Another issue introducing bias into the discipline is the epistemic basics of data retrieval and analysis. When conducting any archaeological project, we always *sample* (Mueller 1975; Orton 2000): regions, sites, excavations areas, soil, artifacts, etc; these sampling procedures of data recovery may introduce bias (Collins 1975). Decisions made on the boundaries of sites (Gallant 1986) also affect data collection strategies, and so are incompatible site definitions (Plog *et al.* 1978; Van Bueren 1990; Dunnell 1992). The latter may vary greatly – both as an ‘official’, epistemological term, and as a personal perception. Defining a site can be challenging, as sites are not “things or qualities but rather concentrations or quantities” (Dunnell 1992, 29). A site could be defined as a *place* in which ancient human activity had taken place (marked by any type of a physical object); a collection of objects or other remains which are physically close to each other; or it can also be seen as one of many forms of an archaeological record – one type of a past ‘event’ or ‘element’. Since the term ‘archaeological site’ can be interpreted and understood in different ways, data collection and documentation results may vary.

In general, survey or excavation methods include decision-making at different stages of archaeological work; these decisions are driven by interpretations that may vary from one archaeologist to another (Hodder 1997; for following discussion see Hassan 1997; Hodder 1998b). Furthermore, when we collect and analyse data we are controlled by subconscious conceptual models (Clarke 1972), which affect procedures of categorisation, classification and typology (Daniels 1972) as well as artifact analysis (Beck and Jones 1989). The subjectivity of human perception may lead to often unconscious and arbitrary decision-making taking place in any stage of the archaeological work, using *hermeneutic procedures* (Hodder 1999a). Descriptions written by archaeologists in the field are one example of such hermeneutics, revealing a “high degree of originality and authorial voice. Archaeological data is often a ‘cultural expression’ in its own right, and not simply a set of objective physical measurements” (Kansa *et al.* 2010, 319-320).

The second type of bias – *value-based* – is the one on which I will focus more fully throughout the chapters that follow. Archaeological projects are conducted because they are considered valuable and important. But why are they important – and for whom? The answer to these questions varies considerably. Archaeological excavations or surveys



produce tangible remains, to which we attach values (see previous discussion in Section 3.2.1). These values can be scientific, aesthetic, economic, political, ideological, religious or cultural. For a variety of reasons, we believe archaeology and cultural heritage are significant. “We” can be archaeologists, researchers, cultural heritage practitioners, members of the public, or any other individual; “we” can be an institution, a university, a society, an organisation, a corporation; “we” can also be a country, or a government. Anyone is a potential consumer of archaeology or any other form of cultural heritage. Archaeologists themselves come from various socio-political and cultural backgrounds and have to operate within different kinds of frameworks that unavoidably shape their research. Research agendas, interests, and goals are present as part of any archaeological project, and retrieved archaeological data “only become data in the context of specific theories: observations are ‘theory-laden’” (Shennan 1989, 2). These theories are always “inextricably bound up with political beliefs and ideological values... [and] the attempt to hide or minimise the intrusion of values can never be very successful” (Tilley 1989, 110). Ultimately, different positions influence the research questions asked, the sites selected for study, the material collected and interpretations made (Shennan 1989, 1; Glock 1995).

Moreover, aside from the personal or institutional motivations to conduct an archaeological project, a major role is played by funding bodies. Archaeologists and researchers are dependent on financial resources to run their projects, and they are not likely to receive any budget unless they provide a clear definition of the reasons and aims for their projects. By explaining their research objectives, archaeologists increase the chances of receiving sponsorship (Roskams 2001, 65). The success of a funding application to a potential sponsor is “contingent on personal, political, and economic factors” (Steele 2005, 46), and the sponsor should have an interest in the proposed archaeological initiative. Thus, when a funding body sponsors an archaeological project, some sort of return is expected, and “often this return is a materialised ideology or identity in the form of an artefact, monument or textual history” (Russell 2006, 191-192).

Roskams (2001, 65) differentiates between three types of sponsors: government, private bodies and individuals. Governmental organisations, as well as academic institutions, will support some projects that fall under the scope of their authority, e.g. cultural, science or educational foundations, research institutes, etc. Their funding schemes could be either strategic, encouraging funding applications on specific research topics or gaps in current research, or responsive in nature, by simply shifting between different incoming grant applications after they have come in. The second tier of potential funding institutions for

archaeological projects comprises private organisations, mostly construction firms who wish to build in an area with archaeological remains. Finally, commercial companies and individuals may have a particular interest in an archaeological project and will sponsor it if they get something in return – whether publicity or personal sense of achievement and satisfaction.

In any of these levels of funding bodies, sponsors have an effect, to some degree, on the archaeological project and the highlights of its presentation and publication. Research projects funded by the government, for example, may at times be chosen according to ideologies held by the leading party (e.g. nationalist outlooks). Private organisations, which generally do not prioritise archaeology as one of their main interests, may also dictate the pace or level of detail of archaeological projects funded by them. Likewise, commercial companies are more likely to prioritise monetary gain rather than archaeological knowledge, and this may actually affect the interpretation of finds. A good example of the relationship between excavation projects and their sponsors can be demonstrated by the case of Çatalhöyük, where, for example, obsidian artifacts were presented as the earliest credit cards, because an international credit card company was one of the dig's sponsors (Hodder 1998a, 133-134). The issue of funding will be discussed briefly in relation to Israeli and Palestinian research agendas in the next chapter (Section 4.4).

In his response to Hamilakis (1999), Hodder (1999b, 83) asks: “What indeed is to be the role of the archaeologist as intellectual in a world in which ‘academic freedom’ is increasingly compromised by funding bodies, individual donors, special interest groups, lobbyists...?”. This is an important question to ask, but a difficult one to answer, as archaeologists and cultural heritage practitioners have to continuously maneuver between those who pay the bill, the aspirations of the academic-scientific sector and diverse heritage-consuming communities.

If we return to the characterisation of the cyclical nature of bias in archaeology (referred to at the beginning of this section), it was considered how data collection, which is always partial, is followed by further data collection, which is based on previous findings, and so forth. In a similar fashion, archaeological and heritage inventories include only some of the total existing data, then decisions or interpretations are made according to this limited data, and so on. As much as bias can be pervasive and difficult to detect in different

archaeological projects, it may be even more difficult to detect in archaeological and heritage inventories, which may have the misleading appearance of being all-inclusive.

There are, in fact, different ways in which bias can find its way not only into archaeological research, but also into archaeological inventories. Firstly, inventory creators choose what to include (and what not to include) in their data collection; for example, one may decide to cover only pottery periods in their database. Secondly, inventories often represent the collection of other projects of data collection, such as surveys or excavations. As a result, they incorporate any types of biases previously introduced to those projects. In addition, the creation of an inventory, just as any archaeological endeavour, can be a result of contemporary interests in society, current events or politics.

While different biases can distort or obscure the archaeological record, they can also create certain patterns within it. One example of searching for such patterns of distortions and trying to rectify them is presented by Van Leusen (2002), who introduces a concept of bias modelling for archaeological surface surveys (*ibid.*, 4.7-4.17). As bias or subjectivity patterns can be created in the archaeological record, they can also be created in archaeological and heritage inventories. I seek to highlight those patterns in the following chapters.

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#### 3.3.4 THE USE OF GEOGRAPHIC INFORMATION SYSTEMS (GIS)

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Another important topic merits a theoretical discussion is Geographic Information Systems and their use for archaeology and cultural heritage management. Computerised mapping represents a continuation of traditional cartography, which, as already mentioned (Section 3.3.2) came with its own theoretical baggage (for more on cartographic practices prior to the introduction of GIS, see Section 5.3). As defined by Conolly and Lake (2006, 11), GIS can be referred to as a “suite of tools that help people interact with and understand spatial information.” GIS enables the collection, storage and analysis of archaeological data within its broader geographic context (Chapman 2006, 37). As a data management platform, GIS is a natural choice of a tool to be used by archaeologists and heritage managers. This is mainly because almost all archaeological data, retrieved via a field survey or excavation for example, can be spatially referenced. This kind of physical data can be visualised and examined in relation to other spatial

attributes of the landscape (Conolly and Lake 2006, 14). In addition, GIS fits well with a 'scientific' view of what constitutes an archaeological landscape. Just as with traditional cartography, GIS tends to prioritise an absolute and neutral perception of space (Witcher 1999, 14), and does not usually take into account a multiplicity of possible landscape perceptions.

However, GIS is not merely an objective research tool, but is itself theory-laden, and a body of GIS theory has been growing steadily that aims at addressing this fact (Zubrow 1990; Harris and Lock 1995; Wheatley 2000 for early discussions). One main line of thought has been that GIS is a group of technologies that introduce their own forms of bias into archaeological investigations. The main post-positivist ontological position is that the data models created and visualised as part of a GIS platform are subjective. These data models cannot reflect an objective reality because the user's own subjective perception of reality is an integral part of them (Sui 1994). "The most significant geographic spaces may never make it into a computer" (Couclelis 1992, 76), meaning, the real world is much too complex to be represented on a GIS platform in a complete or wholly satisfactory way.

These ontological constraints of GIS are important to be aware of when discussing its usage in heritage management, whether for performing data modelling and analytical queries, or solely for the purpose of visual representation. Early GIS technologies were developed without much awareness of the possibility that space may be perceived individually and subjectively, and that people do not share a universal experience of it. However, the perception of space is in fact individual, and therefore a digital platform visualising it, such as GIS, is socially constructed. "Representational systems... are abstraction at best" (van der Elst 2010, 77) and are a result of decision-making processes. Thus, different perceptions of landscape, as well as other limitations of GIS, have an important role in current GIS method, theory and practice for archaeology and cultural heritage management. The overview below will consider in more detail some of the factors that introduce bias as part of the use of GIS and that are especially relevant for this dissertation.

As already raised above, one related issue is the definition of an archaeological site. In a sense, site definition is a form of 'spatial determinism', which further reifies the traditional representation of archaeological data as constituting 'settlements' or 'regions' (Zubrow 1990, 68; Wheatley 2000, 127). More practically still, the site is also one of the central units of tangible heritage management, and can refer to a "bounded area of archaeological

value which is deemed to exist within a matrix of no value” (Zubrow 1990, 71; see also Wheatley 1995, 169-170). However, the archaeological ‘site’ is not the only archaeological unit that potentially merits attention, and Zubrow and Wheatley encourage a theoretical deconstruction of the traditional spatial categories in archaeology. Wheatley (2000, 127) recommends seeking alternative ways of categorising archaeological finds, and Zubrow (1990, 71) points out that GIS actually enables archaeologists to investigate a ‘siteless’ region, where the unit of analysis is the artifact and not the site. According to him, cultural heritage managers have the “choice of adopting a conceptual model of the archaeological resource which is spatially continuous” (*ibid.*), and Wheatley continues this line of thought by offering a model representing the archaeological landscape as a continuous space, with areas of different degrees of ‘value’ (1995, 171, Fig 11.1). Another issue relating directly to the definition of an archaeological site is the definition of a site’s boundaries. The complicated business of defining a site’s boundaries in the field is usually collapsed in a GIS, where the latter makes no permanent representation of uncertainties or of the natural ‘fuzziness’ of a boundary (*ibid.*, 69). Boundaries of archaeological sites are “fuzzy in nature and do not conveniently lend themselves to digital capture” (Harris and Lock 1995, 358). The fact that a typical GI system ‘requires’ archaeologists to demarcate the boundaries of sites accurately does not take into account the trickiness and ambiguity of defining a site’s boundaries, leading to representational inaccuracies.

Another common criticism of GIS is that it is an ‘environmentally deterministic’ tool (Wheatley 1993; Gaffney and Van Leusen 1995). Archaeological data viewed on a GIS platform is commonly represented within its spatial surroundings, i.e. with additional layers depicting topography, water-courses, geology etc. There is, therefore, a natural and intuitive environmental tendency in the use of GIS for archaeology, whether it is used for representing the distribution of archaeological and heritage sites, or for analysing this distribution in a formal way (e.g. predictive modelling of site location). This approach to an archaeological landscape can be problematic however, since space is mistakenly perceived as an “abstract, singular [...] inert and empty, devoid of meaning and agency” (Llobera 1996, 613). Some aspects of archaeological heritage are not typically represented on spatial maps, such as socio-political meanings attached to archaeological sites. For instance, while the physical boundaries of archaeological sites can be visualised spatially (at least to some extent), the scope of social influence exerted by these sites usually is not represented. In addition, with particular regard to cultural heritage management, not just anything can be represented spatially. For example, intangible heritage such as a community’s *sense of place*, experiences, memories or feelings related to physical spaces

present obvious challenges, and may sometimes be impossible to plot on a map (Morgan *et al.* 2010, 113). However, there has been a trend over the last decade towards 'humanising' GIS models (Witcher 1999), and there are attempts to visually represent heritage aspects which are not just the physical or geographical characteristics of sites (e.g. Mrozowski 1991; Llobera 1996; Fitzjohn 2009). As mentioned sometime ago by Witcher (1999, 13), landscape has started being perceived by archaeologists as "socially constructed, subjectively experienced, and polysemic in nature". Therefore, there are conscious attempts to mitigate perceived environmental determinism within GIS-based investigations, by attempting to better understand personal perceptions of heritage in space, as well as social, political and ideological aspects of landscape (for further discussion see Section 10.3.3).

The last type of concern included in this overview relates to the creation and display of archaeological maps, whether in a GIS or as part of traditional paper-based cartography. To begin with, one problematic aspect of data display using GIS is referred to by Harris and Lock (1995) as 'knowledge distortion'. This happens when the GIS incorporates a dataset which already contains some methodologically-biased data, or when it includes different surveys or excavations that have covered the overall study region unevenly, but where the presentation in a GIS or on a paper map does not reflect it adequately (*ibid.*, 357-358). Varying spatial accuracy in determining a sites' exact location is also an issue when many sites are combined into one dataset (Sanjuan and Wheatley 1999, 210). Another potential hermeneutic pitfall may occur when a distribution of sites is presented on a map is the risk of a "reductionist approach assuming all sites are of 'equal value'" (Witcher 1999, 17). A landscape abundant with clusters of archaeological sites is not necessarily more significant or more valuable than a region with only a few 'dots' on it. A further issue which may impair the understanding of a GIS map is due to purely technological constraints of GIS (Zubrow 1990, 69-71). Typically, the system incorporated inherent limitations as to how sites can be represented (raster or vector data), and how data on sites can be queried (e.g. using Structured Query Language – SQL), limiting or even determining questions asked about archaeological data (*ibid.*).

Miller (1995) raises additional display and interpretation issues that may occur when using GIS for the representation of an archaeological site or landscape. For example, he criticises the misleading accuracy that GIS may impose on the recording of archaeological sites and artifacts. As a computer-based technology, GIS is an inherently accurate software – which may turn out problematic when dealing with inaccurate or incomplete data (*ibid.*,

320), or when combining data of different levels of accuracy, deriving from different sources (Harris and Lock 1995, 358). A distorted image of a landscape may then occur when representing data of diverse accuracies and inconsistencies on a single GIS map. Moreover, digital maps may be perceived as more exact or more systematic, and hence may be more misleading than paper-based maps (Miller 1995, 320-321). Computer models are typically imbued with a high degree of expert authority (Miller and Richards 1995, 20), leading to less criticism and doubt in their accuracy. Another rather practical problem associated with producing GIS maps is that archaeologists are not professional cartographers; hence while their maps may be visually impressive, they may be confusing at best, or misleading at worst (*ibid.*, 21). This issue of problematic data representations using GIS, as well as the other factors that may introduce bias into our understanding of spatial archaeological data discussed in this section, will be elaborated upon with regards to West Bank GIS maps in Chapter 6 (Section 6.3.4).

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### 3.3.5 ACCESS TO ARCHAEOLOGICAL DATA

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The issue of data access is important for this theoretical overview, as it also relates to power, control over knowledge, and the inclusion or exclusion of individuals or groups from information that might be useful to them. Varying degrees of exposure to knowledge about the past shapes the way in which the past is understood and therefore the ways in which cultural heritage is managed. The 'open data' movement, asserting that data should be available to anyone for free and without restrictions, is closely linked with other 'open' movements such as 'open access', advocating free access to journal publications. The debate about open data is not exclusive to archaeologists, but is common generally in academic and professional spheres, especially in recent years. Naturally, in this digital age, discussion revolves around publishing data online, in the forms of electronic journals (eJournals), eBooks, downloadable documents (such as pdf files) or databases (Tenopir *et al.* 2009; Xia 2011). Research behaviour keeps on changing as more and more information becomes easily accessible and available online. The debate over open access to data is derived from moral ideas of equality and democracy, entwined with a practical approach advocating an improved usability of fully-attainable data (Bevan 2012, 6-10). Archaeological data in particular is considered to be universal knowledge, belonging to everyone, and not the private property of the researcher retrieving it. Among the archaeological and heritage communities, restricted access to data results in a direct

negative impact on research, preservation and education (Kansa *et al.* 2010, 303). The prominent trend has therefore been to promote policy changes and actively make archaeological data free and fully accessible online. Some initiatives were created to advocate this approach of open archaeological data and to contribute to it by defining best practices (see for example Open Context, Kansa *et al.* 2010, Kansa and Kansa 2011; Open Context 2013; Open Data in Archaeology blog website, OKFN 2012; or Archaeology Data Service, ADS 2013).

The advantages of allowing professional archaeological data to be fully accessible are abundant. The main practical outcome is a positive cyclical process in which data becomes more useful, as a result its quality improves, and so forth. Data usability increases as more people get to rediscover and reuse it (Kansa and Kansa 2011, 77), a practice that improves the quality of research as scholars become better informed (Xia 2011, 235). This process is a traditional feature of the academic domain, but online access to information increases its pace, as knowledge gets distributed faster and more efficiently. The quality and accuracy of data improves as the process of data creation embraces higher visibility, accountability and transparency (Kansa *et al.* 2010, 322). This process also increases opportunities for collaboration between academics and professionals working for private or public institutions in the heritage sector. Open data also benefits from low costs of Internet connection, storage and software, making research very cost-effective and therefore enabling the creation of more data. Moreover, the Internet environment allows for the storage and display of large datasets, while making them easy to find and explore (*ibid.*, 306-308). Allowing for professional archaeological or cultural heritage data to be freely accessible online also enables the general public to browse this data and therefore become more informed and more engaged with archaeological heritage. Visitors to recorded heritage sites (especially remote ones) might even become watchdogs, alerting relevant agencies of changing site conditions or reporting detrimental actions such as vandalism.

However, one major fear of facilitating access to professional archaeological data is that this information will be misused by non-professionals. For example, the publication of exact site locations potentially puts those sites at a higher risk of looting or vandalism. Therefore, some scholars argue that there is a vital need to create a permission system that is able to grant access to some kinds of information while restricting access to others (Kansa *et al.* 2010, 306-307). This can be done, for example, by granting the public with no access to exact site coordinates, or by providing spatial data with a lower resolution, for example, indicating the existence of sites in a 5x5 km<sup>2</sup> instead of specifying their exact



locations (Bevan 2012, 8; Palumbo 2012, 28). This solution, however, does not bypass the problematic aspect of someone making decisions regarding who is entitled to access spatial data and who is not.

There are also some possible drawbacks for the creation of open data from the databases' developers' perspective. Creating a complex and user-friendly online data system may require a lot of time and money on the researcher's or organisation's end (Kansa *et al.* 2010, 308). 'Cleaning' the data, customising and preparing it for online publication or for download, as well as creating a platform for its display if necessary, may demand much effort from the original data creators. These pros and cons of different levels of accessibility to archaeological data, and the ways that accessibility to information may influence decision-making, will be discussed in this dissertation with regards to databases of the West Bank. They will be examined in the analysis of different databases (Section 6.3.1), and more specifically for the Jericho area, via a questionnaire distributed among heritage professionals (Section 8.3).

### 3.4 SUMMARY

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In this chapter I outlined a wider theoretical agenda and introduced some concepts that will provide an important underpinning for the analysis and interpretation that follows in later chapters. These include postmodern and post-colonial approaches to the examination of how knowledge is produced both in institutional power structures and in wider social, political or economic contexts. These issues also relate to more general questions about human rights, ethics, and the role of culture in people's lives. In addition, this chapter has described a particular perspective on cultural heritage management, and engaged in a discussion of the different possible perceptions of landscape that may substantially influence this management. Five main theoretical approaches will inform my overview of archaeological research agendas in the next chapter and my characterisation of particular archaeological inventories: social psychology, archaeological colonialism, archaeological subjectivity, the theory-laden nature of GIS and the importance of accessibility to data. This chapter raised a few questions in relation to the West Bank: what is the impact of colonialism on local archaeology? Who participates or is engaged in the production of local cultural knowledge? How are the research agendas of the colonisers/occupiers or of the colonised/occupied reflected in their relative positions of

power? These questions will be answered in the next chapter, which will be dedicated to the examination of the juridical, legal and institutional contexts of heritage management in the region, as well as Palestinian and Israeli research interests and heritage management priorities.

## CHAPTER 4. THE PRACTICAL CONTEXT OF ARCHAEOLOGY AND CULTURAL HERITAGE MANAGEMENT IN THE WEST BANK

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### 4.1 INTRODUCTION

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While the previous chapter dealt with the theoretical concepts underpinning this research, this one examines the practicalities of how archaeological and heritage management takes place in the West Bank. This discussion will be developed in several steps. First, the legal framework and areas of jurisdiction relevant to archaeological and heritage practice in this region will be presented (Section 4.2), with the aim of providing a clear picture of who has authority, when and where. The following section (4.3) then describes the institutions dealing with archaeology and cultural heritage management in this area and explores the professional participants and other stakeholders engaged in archaeological activities and heritage management in general, as well as the creation and maintenance of archaeological data in particular. Lastly, Israeli and Palestinian archaeological research interests and heritage management priorities are explored (Section 4.4) against the backdrop of the theoretical concepts presented in the previous chapter. Overall, this examination of research and priorities forms the basis for further analysis of West Bank databases that follows in Chapter 6.

The area of present day West Bank has experienced many political transformations over the course of its history. Professional archaeological activities started to take place in the 19<sup>th</sup> century, with the arrival of European scholars in the Holy Land to study its archaeological and historical past. This archaeological activity continued and evolved during the British Mandate period (1917-1948). After the Arab-Israeli war of 1948, the State of Israel was established and the West Bank was captured by the Hashemite Kingdom of Jordan. Since the Six-Day War and the Israeli occupation of this area in June 1967, Israeli archaeological activity started to take place. After the signing of an interim peace agreement in 1993, jurisdiction over the West Bank was divided between Palestinians and Israelis, followed later by division of control between two distinct national archaeological organisations. These historical episodes have each had significant impacts on the ways in which archaeology was done and the types of collected data – issues that will be discussed throughout this dissertation. The next section examines

issues of jurisdiction and the legal framework within which Israeli and Palestinian archaeologists and heritage professionals operate today in the West Bank.

## 4.2 AREAS OF JURISDICTION AND LEGAL FRAMEWORK

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### 4.2.1 JURISDICTION

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It was the occupation of the West Bank from Jordan in 1967 that marked the beginning of Israeli control over this territory and its inhabitants. The boundaries of this territory were set by the Armistice Agreements in 1949 between Israel, Egypt, Jordan, Syria and Lebanon, when the area of the West Bank, including East Jerusalem, was transferred to the rule of the Hashemite Kingdom of Jordan. The new boundary between Israel and the now occupied West Bank was marked with green ink on the agreements' map, and has since therefore been referred to as the Green Line. Since its occupation in June 1967, the West Bank has generally been considered by the international community as not formally part of any state, but instead occupied by Israel. East Jerusalem was annexed by Israel immediately after the war via the Jerusalem Law, which passed unanimously in the Israeli Knesset (Gazit 2003, 244), but which has not generally been recognised by the international community (e.g. United Nations 1979, 1980).

One week after the occupation of the West Bank, the Israeli government started implementing its administration of these territories. Israel created 18 departments for this region, each with an equivalent ministry in the Israeli government (Nisan 1978, 102), and each with specific areas of responsibility. The activities of the different departments were coordinated by the Israeli army (Israel Defence Forces – IDF), which was also in charge, together with the Ministry of Defence, of security concerns (Gazit 2003, 26). Civilian 'Staff Officers' were appointed to serve as representatives of each of the new administration's departments. Today, the unit responsible for implementing Israeli government policies in the West Bank is the Coordinator of Government Activities in the Territories, which is subordinate to the Israeli Minister of Defence (COGAT 2012, About Us). The Civil Administration, now comprised of 23 departments, is part of this unit, as the body responsible for the implementation of Israeli policy through the different departments. The Coordination Unit coordinates the activities of the Civil Administration departments and the IDF, as well as cooperation with the Palestinian National Authority. A variety of

Staff Officers operate within the Civil Administration, responsible for health, industry and trade, education, transportation, welfare, measurements, land, communication, planning and nature reserves. The Staff Officer for Archaeology (SOA), appointed by the Israeli Minister of Education, was given charge of all archaeological affairs in the entire territory of the West Bank (see also Section 4.3.1.1).

The complete sovereignty of Israel over the West Bank ended with the signing of the Declaration of Principles on Interim Self-Government Arrangements (also known as the Oslo Accords) in September 1993. The aim of this interim agreement was that negotiations should eventually lead to the implementation of Security Council resolutions 242 (United Nations 1967) and 338 (United Nations 1973), seeking a permanent settlement solution. The first stage of the Oslo Accords (Oslo I 1993) founded a semi-autonomous Palestinian rule in the occupied West Bank and Gaza Strip, with the initial handing over of Jericho and Gaza to the Palestinian authorities. As a result of the second stage, the Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip (Oslo II 1995), the West Bank was divided into three areas: Area A (18% of the total area of the West Bank) is under full Palestinian control; Area B (22%) is now under Palestinian civil control and Israeli military control; and Area C (60%) is under full Israeli control (Fig. 4.1).

As seen in Fig. 4.1, these areas are not contiguous but rather fragmented, depending mainly on population areas and Israeli military requirements. However, some archaeological sites with special religious value to the Jews remained under Israeli control, e.g. Joseph's Tomb near Nablus, Tell en-Nasbeh, Gibeon and Bethel; these sites became Israeli enclaves within Palestinian-populated areas (Yahya 2005, 69). Archaeological sites had also influenced the route of the separation fence – a wall built by Israel since 2002, separating the West Bank from Israel proper. The main factors determining this route were Israeli security considerations and the location of Jewish and Palestinian settlements. However, in the course of constructing this wall, numerous archaeological sites had been discovered; this, at times, caused minor changes its route, usually by moving it a few dozen metres westwards or eastwards.

Archaeological issues were addressed in the second phase of the Oslo Accords. The agreement established the transfer of archaeological responsibilities from the Israeli Civil Administration to the Palestinian National Authority (PNA) in Areas A and B, including “the protection and preservation of archaeological sites, management, supervision, licensing and all other archaeological activities” (Oslo II 1995, Annex 3, Appendix 1, Article

2(1)). Those responsibilities were to gradually be transferred later to the jurisdiction of the PNA in Area C as well (Article 2(2)). The Oslo II Agreement also encouraged cooperation between Israeli and Palestinian archaeologists by forming a joint committee to deal with issues of common interest (Articles 4(2), 9(2)), and through which both sides would inform each other of the discovery of new archaeological sites (Article 8(2)). The agreement also included a list of eleven archaeological sites in the West Bank (and one in Gaza), holding special importance to Israel, comprising synagogues, biblical sites and other holy Jewish sites (Schedule 1), with the intention that Palestinians would consider cooperating in decision-making regarding those sites, which would be under Palestinian control. According to Article 2(10), Israel should provide the PNA with a list of excavated sites and a list of finds uncovered since 1967 from the areas transferred to the PNA. Both sides should take measures to prevent theft or illegal trade, and ideally cooperate on this matter through the joint committee.

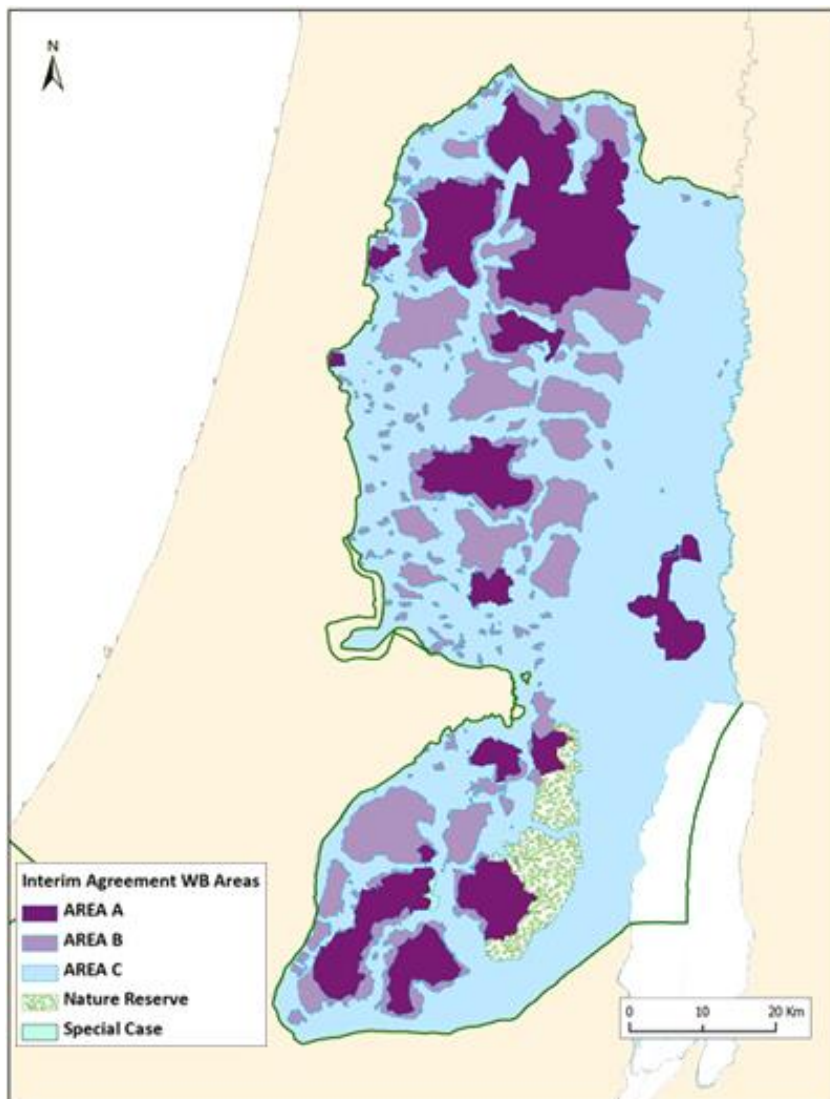


Fig. 4.1: West Bank Areas of Jurisdiction after the implementation of the Oslo Interim Accords.

As a result of the Oslo Accords, the activity of the Israeli SOA was reduced from the entire West Bank to Area C, while the Palestinian Department of Antiquities and Cultural Heritage (DACH) gained control over the remainder (Areas A and B). From this point on, the PNA and Palestinian academic institutions began developing systematic archaeological inventories in the West Bank. Unfortunately, the Oslo interim agreement was not followed by a final peace agreement, resulting in fragmented areas under Palestinian control and the remaining area still under Israeli military occupation. As a consequence, Israeli and Palestinian official archaeological organisations create, use and maintain different archaeological inventories that otherwise relate to the same geographical area.

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## 4.2.2 LEGAL FRAMEWORK

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Due to the fragmentary nature of current jurisdiction in the West Bank, there is no unified legal framework applicable to this area. Thus, antiquity laws applicable for Palestinian and Israeli areas differ slightly. In addition, because the West Bank is considered to be occupied territory by Israel, international laws and recommendations also apply to this area. This section includes an overview of the different legislations applying for the West Bank, with an emphasis on those legal aspects that are particularly relevant to this dissertation.

### 4.2.2.1 LOCAL LAWS

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The basic antiquities law meant to protect cultural heritage in this area is the 1929 Antiquities Ordinance No. 51, enacted by the British High Commissioner for Palestine during the British Mandate period. According to Article 2 of this law, the term ‘antiquity’ relates to any object created or modified by humans before 1700 CE, human or animal remains dating earlier than 600 CE, or structures built later than 1700 CE which may be declared as antiquities by the Director of the Department of Antiquities (Sauders 2008, 475-476). The chronological division at the year 1700 CE excludes all archaeological sites, artifacts, and traditional and historical structures constructed after this date, the protection of which was “based on the goodwill of the British administrators” (*ibid.*, 476; Al-Ju’beh 2008a, 4). Hence all cultural property that is younger than 300 years, but that might be highly significant for local communities, was excluded from such legal protection,

as was any intangible heritage such as ethnographic materials. The 1929 antiquities law remained in effect in the West Bank when the region was transferred to the sovereignty of the Hashemite Kingdom of Jordan. In 1966, the Jordanians replaced this ordinance with Temporary Law no. 51 on Antiquities (Oyediran 1997, 34), but the latter is very similar to the 1929 Antiquities Ordinance, defining 'antiquities' according to the same chronological divisions (Jordanian Law of Antiquities 1966).

After the Israeli occupation of the West Bank in 1967, the 1966 Jordanian law was adopted by the Israeli Civil Administration in its existing form (Civil Administration 2011, Legislation). However, in 1986, Israel introduced two legal decrees concerning antiquities, Military Orders nos. 1166 and 1167, that amended small parts of the Jordanian Temporary Law no. 51 on Antiquities (see Greenberg and Keinan 2007, Appendix II), especially with regards to the legality of antiquities trade and the issuing of excavation licenses. The new amendments granted the SOA absolute control over both movable and immovable cultural heritage of the West Bank, with no requirement that it be held accountable to anyone. For example, the law recommends that the archaeological advisory council should be consulted by the SOA regarding "any matter of importance that *he sees fit*" (Order 1167, par. 4; own emphasis), and shall hold meetings "at the invitation of the Deputy Chairman" (Order 1167, par. 5), which is the SOA. Another alteration in the law empowers the SOA with the authority to conduct excavations anywhere in the West Bank (Greenberg and Keinan 2007, 17).

After the Oslo Accords and the transfer of some of the West Bank territories to the Palestinians, the original 1966 Jordanian law became the antiquities law applicable in the Palestinian areas of the West Bank (Areas A and B). Since 1996, the Palestinian Legislative Council (PLC) has been working on new legislation for the protection of cultural and natural heritage in Palestine (Birzeit University Institute of Law 2005). This is a crucial step to replace the outdated 1966 law, which neglects many aspects of heritage and therefore does not provide them with legal protection. The proposed new legislation redefines 'antiquities' as objects older than 50 years old, while widening the scope of cultural heritage in order to protect historical centres and vernacular architecture; it also aims to protect cultural and natural landscapes (Taha 2010, 18). This new law is in its fifth iteration but as yet remains unlegislated (Al-Houdalieh 2010, 38).

To sum up the issue of local legal frameworks, since the draft of the Palestinian legislation has not been enacted yet, the 1966 Jordanian law is applicable for Areas A and B of the



West Bank. The same law applies in Area C, currently controlled by Israel, but with further amendments made by Military Orders 1166 and 1167.

#### 4.2.2.2 INTERNATIONAL LAWS AND RECOMMENDATIONS

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This section explores international legislation and recommendations applying to archaeological activities in the occupied territories in general, and in the West Bank in particular. Numerous international legal standards are applicable to the protection of cultural property in occupied territories or in an armed conflict. These include sets of regulations and recommendations, resulting from meetings held by organisations such as the United Nations, UNESCO, ICOMOS and ICOM. Over more than a century, their sets of principles and practices have been improved and fine-tuned as internationally-agreed guiding frameworks for the protection and preservation of cultural heritage assets, whether during times of peace or war.

The annex of the Hague Convention respecting the Laws and Customs of War on Land (Hague Convention 1907), Section III, deals with military authority over hostile territory. It is maintained that the “authority of the legitimate power having in fact passed into the hands of the occupant,” the latter should respect “the laws in force in the country,” (Article 43) meaning the local laws adhered to prior to the occupation. Articles 46 and 47 of the regulations establish that private property should not be confiscated or pillaged. The appropriation of private property should be allowed only in case it is necessary for the occupying army (Article 52). The Hague Convention and its Regulations now apply to all states, whether they were ratified by them or not (Oyediran 1997, 11); therefore, it is applicable to the West Bank.

The Geneva Convention Relative to the Protection of Civilian Persons in Time of War of 1949 (United Nations 1949) further prohibits pillage (Article 33), as well as the destruction of private or public property of the occupants by the occupying power (Article 53), unless this destruction is necessary for military operations. According to Article 64, the local laws existing in the occupied land prior to its occupation should remain in force, unless posing a threat to the security of the occupier, or if posing an obstacle to the application of the Geneva Convention.

The Convention for the Protection of Cultural Property in the Event of Armed Conflict (The

Hague Convention, see UNESCO 1954) aims at protecting cultural heritage during military conflicts. This treaty relates to both movable and immovable cultural property. Article 4(3), for instance, prohibits any form of pillage, theft or removal of cultural property from the occupied territory. According to Article 5, which deals with the obligations of the occupier, the occupier must preserve the cultural property in the territory. It is worth noting that while recommendations of this convention do not explicitly prohibit excavations in occupied territories, it could still be argued that, because of the act of excavation in fact destroys the archaeological site and cultural property, then this is part of the prohibition covered by Article 3 of this convention (for more on this debate, see Oyediran 1997, 15-18).

The two protocols of the Hague Convention discuss immovable and movable heritage. The First Protocol (1954) prohibits the removal of cultural property from an occupied territory (Article 1(1)), as well as requiring the return of cultural property in case it was removed from its original location (Article 2). The Second Protocol, adopted in 1999 after reviewing the Hague Convention, addresses the need to prohibit archaeological excavations in occupied territories. According to Article 9, the occupying power is obliged to prevent the exportation of cultural property during the occupation, as well as abstain from conducting any archaeological excavation, unless there is a strict necessity to safeguard, record or preserve such cultural property. Should such excavations be required, the occupier should conduct them in cooperation with the national authorities of the occupied territory. Israel is not a signatory to the Second Protocol of this Hague Convention.

The 1956 New Delhi Recommendation on International Principles Applicable to Archaeological Excavations (UNESCO 1956), which followed the Hague Convention of 1954, was the first agreement explicitly aimed at regulating archaeological excavations in occupied territories. Article 32 explicitly requires the occupier to abstain from conducting excavations in occupied territories, in the event of armed conflict. If cultural property was uncovered nonetheless, the occupier must protect it. If such property was removed from the territories, the occupier must return it at the end of the conflict, alongside the relevant documentation. The New Delhi recommendations are not legally binding, but were adopted by the General Conference of UNESCO.

The Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (UNESCO 1970) also deals with movable cultural property. According to Articles 11 and 12, the export of cultural property from an

occupied territory should be regarded as illicit, and the occupying power should do its best to prohibit and prevent such export or transfer of ownership of cultural property. Israel did not accede to the 1970 UNESCO's recommendations.

#### 4.2.2.3 SUMMARY

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As demonstrated in this section, the legislative frameworks applying to the West Bank are inconsistent, and sometimes contradictory. As the occupier of the West Bank, the Israeli government adheres to the 1907 Hague Convention and Regulations, the 1949 Geneva Convention as well as the 1954 Hague Convention, in relation to the Occupied Palestinian Territories, and is bound by their obligations. According to these international laws, Israel is prohibited from pillaging, confiscating, destroying or removing cultural property from the occupied West Bank. However, as an occupying power, it also adheres to the local laws in force in the occupied territory, i.e. the 1966 Jordanian law.

One example of a contradiction between international and local laws is the issue of excavations. According to international law, archaeological excavations cannot be conducted by the occupier, with the exception of salvage work on sites that are under threat. The Jordanian law, on the other hand, although not referring to archaeological excavations in occupied territories, allows the local archaeological body in charge to conduct such activities. In response to international law, Israel justifies regular excavations by arguing that they should be considered salvage works, as they are conducted in order to save the archaeological sites from looting and destruction. The Palestinians, as well as the international community, refer to these Israeli excavations as breaches of international law (Oyediran 1997; Rjoob 2009; Sayej 2010, 61; Yahya 2010b). In fact, most countries view the archaeological activities of Israel in the West Bank, in light of international agreements and laws, as wholly illegal, especially in relation to the removal of artifacts into Israel, and the conduct of scientific excavations whenever and wherever it sees fit.

A variety of institutions working in the West Bank are bound to operate within this complex legal framework and they are described in turn in the next section.

## 4.3 INSTITUTIONS AND THEIR ACTIVITIES

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This section provides an overview of professional Palestinian, Israeli and International organisations dealing with archaeology and cultural heritage management in the West Bank. This examination describes the main professional actors: governmental and non-governmental bodies, academic institutions and international organisations. The aim of this section is to introduce present-day institutions that conduct archaeological projects in the West Bank, or have an impact on decision-making in heritage management. These do not cover all institutions involved in heritage-related projects in the West Bank, such as museums, local tourism initiatives or local councils. Rather, this section describes the main professional organisations dealing with archaeological data collection and management, excavations and surveys, conservation and rehabilitation, site management, and public engagement with respect to cultural heritage.

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### 4.3.1 GOVERNMENTAL ORGANISATIONS

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#### 4.3.1.1 THE ISRAELI STAFF OFFICER FOR ARCHAEOLOGY IN JUDEA AND SAMARIA

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The Israeli governmental archaeological institution currently working in the West Bank is the Staff Officer for Archaeology in Judea and Samaria (SOA), a unit within the Israeli Civil Administration (see Section 4.2.1). Being the West Bank equivalent of the Israeli Antiquities Authority (IAA; the latter working only in Israel proper), the SOA has been responsible for all archaeological affairs in this area since its occupation in 1967, taking over the role of the Jordanian Director of Antiquities. Following the Oslo Accords, the SOA's jurisdiction became limited to Area C of the West Bank, the area under full Israeli control. Very recently, the official name of the Staff Officer changed to the 'Archaeology Department of the Civil Administration' (ADCA; see Civil Administration 2011).

The SOA is responsible for diverse aspects of archaeological activity. As the official governmental body in Area C, the SOA grants licenses for the conduct of surveys and excavations, whether by itself or by academic institutions in Israel or abroad. It also grants permits for infrastructure works at archaeological sites, run by the Civil Administration or the IDF, and oversees such projects (e.g. the construction of the separation fence). The SOA conducts archaeological surveys, initiates research excavations at sites of interest, and

salvage excavations where required. However, nowadays most surveys are conducted by organisations from abroad, the SOA being engaged more in recording projects and less in new archaeological surveys (H. Hizmi, pers. comm.).

Another major role of the SOA is the protection of archaeological sites and the prevention of looting and illegal trade in antiquities. The SOA cooperates with the IAA's Antiquities Robbery Prevention Unit, fighting looting and monitoring antiquities trade in Israel, as well as with the police and border controls. Another aspect of SOA's work in the West Bank is the development of plans for archaeological sites for public access. Once the site is ready to be opened to the public, the Israel National Parks Authority becomes responsible for its management and administration (see Section 4.3.1.3). The SOA also establishes museums in Area C, such as the mosaics museum at the Good Samaritan Inn.

The SOA conducts its own scientific research as well, resulting in the creation of a database of archaeological sites and finds (Civil Administration 2011, What We Do), as well as academic publications on the archaeology and history of the region. As such, the SOA collects and manages significant quantities of archaeological data, in order to "acquire a better knowledge of the region, for research and public interest purposes" (*ibid.*, Other Activities). Its GIS database and constituent spatial layers will be described in detail in Section 5.4.3.

The SOA's decision-making processes relating to development plans and the execution of archaeological and heritage management activities, and the role of its inventory and GIS within such processes, remain unclear. The SOA is probably the sole Israeli authority making decisions with regards to archaeological remains, and it does not officially consult with any other organisation. Its decisions are likely to be based on a combination of its own inventorial and GIS data and each case's specific circumstances (Y. Mizrahi, pers. comm.). This lack of transparency hinders our understanding of the SOA's methods of operation and inventory use; this led to much criticism from Israeli, Palestinian and foreign scholars (see Section 10.4). Learning about these aspects of decision-making and inventorial use, as well as other aspects of the SOA's work, is thus of high importance.

As mentioned, the SOA cooperates with academic institutions in Israel and abroad. While one of its claimed roles is to coordinate and cooperate with the Palestinian National Authority on archaeological issues in Areas A and B (COGAT 2012, Archaeology), there is

in fact no cooperation or any sort of communication with Palestinian institutions (H. Hizmi, pers. comm.).

#### 4.3.1.2 THE PALESTINIAN DEPARTMENT OF ANTIQUITIES AND CULTURAL HERITAGE

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The Palestinian Department of Antiquities was established in 1994 after the signing of the Oslo Accords, within the Palestinian Ministry of Tourism and Antiquities (Taha 2002, 2005a, 2010). It was reconstructed and united with the Department of Cultural Heritage in 2002, to form the Department of Antiquities and Cultural Heritage (DACH). The foundation of DACH is viewed by some as the re-establishment of the Department of Antiquities operating during the British Mandate period from 1920 to 1948 (see Section 4.4.1). As the Palestinian governmental archaeological institution in charge of Areas A and B of the West Bank, DACH is responsible for archaeological issues, site management and rehabilitation projects in those areas.

The main tasks that DACH has defined for itself as primary objectives are “institution building of the Department, formulating legislation to ensure protection of cultural resources, staff training to develop the necessary special capabilities within the departmental team, protection, management, conservation and restoration of archaeological sites and cultural heritage sites, expanding the museum sector and conducting a program of salvage excavations” (Taha 2010, 19). The structure of DACH therefore includes the following units: Excavations and Surveys; Inspections and Licensing; National Register; Conservation and Restoration; Management of Archaeological Sites; Museums; and Laboratories.

Among DACH’s activities since its inauguration are: hundreds of salvage excavations; numerous academic excavations; dozens of restoration, conservation and rehabilitation projects of holy places such as churches, mosques and shrines, as well as of unique traditional and historical buildings; and the cleaning and documentation of hundreds of archaeological sites (Taha in Al-Houdalieh 2010, 40). In addition, DACH helps prepare plans for archaeological sites as archaeological parks, such as the site of Tell Balata in Nablus, and the establishment of local museums, such as the ethnographic museum in Bethlehem. DACH has also been working on the construction of a national register of all

archaeological sites in the Palestinian territories, by collecting all previously known historical and archaeological information on the West Bank (see Section 5.4.1).

DACH is also directly involved in decision-making processes relating to the creation of heritage management plans, in cooperation with the Ministry of Planning and the Ministry of Local Government. While it is each individual municipality's responsibility to create and update its own management master plan for cultural assets located within its municipal boundaries, these master plans need the approval of DACH, as well as of the Central Committee for Zoning and Planning. DACH is responsible for areas located outside of municipal boundaries, although most of these are currently designated as Area C (under Israeli control; N. Al-Ju'beh, pers. comm.). DACH's data deriving from its archaeological inventory is used in GI Systems of municipalities and governmental ministries, which need it to devise Urban Regulation Plans (URP), master plans, National Spatial Plans (NSP), or to make any amendments to land-use (M. Jaradat and A. Rjoob, pers. comm.; for more information see Rjoob 2012, 190-192).

In addition to governmental collaboration, DACH cooperates with many different bodies in order to promote archaeological research and encourage the protection of cultural heritage in Palestine. It collaborates with non-governmental organisations, with international universities and organisations (such as UNESCO and ICCROM), as well as with local academic institutions. However, it is criticised for not collaborating enough with other relevant stakeholders such as local communities (Al-Houdalieh 2010, 50; Rjoob 2012) and, as mentioned above (Section 4.3.1.1), it does not collaborate with official Israeli institutions.

#### 4.3.1.3 THE ISRAEL NATURE AND PARKS AUTHORITY

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The Israel Nature and Parks Authority (INPA) is the Israeli governmental organisation managing cultural and natural parks and reserves in Israel proper as well as in the West Bank. Established in 1998 following the unification of two governmental bodies, the National Parks Authority and the Nature Reserves Authority, INPA is under the responsibility of the Israeli Minister of Environment. INPA's activity is conducted in five geographical districts, four in Israel and one in Area C of the West Bank. In each district it is in charge of archaeological parks, natural parks, nature reserves, and other natural values (INPA 2012).

Among INPA's fields of responsibilities are monitoring, supervising and management of heritage sites and nature reserves, and their development as national parks accessible to the public. In addition, it promotes research, education and raising public awareness to the values of the natural and cultural landscapes. Numerous archaeological sites in the West Bank have been declared national parks and reorganised to receive visitors; the best known of which are Herodion National Park, Qumran National Park, Sebastia National Park, the Baptism Site, and Nabi Samuel National Park. INPA is currently in charge of ten such sites in the West Bank and, to my knowledge, does not manage a database of archaeological sites in this area, which is the role of SOA.<sup>2</sup> Therefore, while its involvement in heritage management is of general interest, it is not directly relevant for the analysis of databases conducted in the chapters that follow.

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#### 4.3.2 NON-GOVERNMENTAL ORGANISATIONS

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Numerous cultural heritage NGOs operate in the West Bank, most of which are Palestinian. Some of these organisations are fully non-governmental bodies, working on a national level in the West Bank, while others are semi-governmental bodies based in a particular city and working on the urban or regional level (Al-Houdalieh 2010). Most of these organisations were established after the implementation of the Oslo Accords, and their activities generally include the protection and conservation of built historic heritage; the promotion of intangible heritage such as local crafts and traditions; and the raising of wider public awareness. Very few of those are focused on archaeological heritage alone or even primarily. A key point to note is that since these heritage NGOs are supported by international funding, they are often more able to be involved in the management of cultural heritage at a national level than the Palestinian government itself is (de Cesari 2010a).

One of the most prominent Palestinian NGOs working in the West Bank is the Riwaq Centre for Architectural Conservation (Riwaq 2012). Established in 1991, Riwaq is a Ramallah based organisation which aims to protect and develop architectural heritage in Palestine, as well as to raise public awareness via community outreach activities. Among Riwaq's

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<sup>2</sup> I tried corroborating this assumption with INPA, but was unable to elicit further information on their *modus operandi* in the West Bank.



activities are the creation of a national register of historic buildings, involving the survey of 16 cities and 406 villages in the West Bank and Gaza Strip (Riwaq 2007, 2011; see Section 5.4.2); the preparation of protection plans for 16 districts (N. Al-Ju'beh, pers. comm.) and the implementation of dozens of conservation and restoration projects.

Although Riwaq is an NGO, *de facto* it is the national authority on architectural preservation, and is approached as such by government ministers, municipalities and other organisations. For example, as previously mentioned, municipalities are responsible for creating or updating their management master plans (Section 4.3.1.2). However, since they are not cultural heritage experts, they usually apply to Riwaq and ask it to prepare those heritage protection plans. In order to prepare such plans, Riwaq uses its own register of historic buildings, British Mandate documents, old master plans and municipal archives. The municipality works with Riwaq in this whole process of preparing the protection plan, which also includes consulting with stakeholders, investors, inhabitants, experts, etc. (N. Al-Ju'beh, pers. comm.).

The Palestinian Association for Cultural Exchange (PACE) is another significant Ramallah based NGO (PACE 2009), established in 1996. The main aim of this organisation is the protection of archaeological sites through public education and outreach; research and documentation; rehabilitation and conservation projects in historical and environmental sites; and the promotion of intangible heritage such as traditional handicrafts and oral history (Yahya 2005, 74-76). As in the case with Riwaq, so PACE also works at the national level. Another NGO which should be mentioned here is the Welfare Association (WA), established in 1983 with the aim of promoting the wellbeing of Palestinian communities in the occupied territories and beyond (WA 2013). Some of this organisation's activities include the restoration of historic buildings (focusing on the Old City of Jerusalem) and other preservation projects of tangible and intangible Palestinian cultural heritage.

Palestinian NGOs working at the local level include the Hebron Rehabilitation Committee (HRC), the Centre for Cultural Heritage Preservation (CCHP), the Mosaic Centre of Jericho (MCJ) and the Civil Society of Nablus Governorate (CSNG), based and operating in Hebron, Bethlehem, Jericho and Nablus respectively. The HRC's main objectives are to rehabilitate and preserve traditional buildings in Hebron while repopulating areas in the Old City, as well as raising awareness among the local community of the importance of this architectural heritage (Qawasme 2006; HRC 2013). The CCHP, working in the area of Bethlehem, Beit Jala and Beit Sahur, also implements rehabilitation projects of historic

structures while promoting public awareness (CCHP 2013). The MCJ trains Palestinian students in modern mosaic production and ancient mosaic conservation and preservation (MCJ 2013). The CSNG supports rehabilitation projects in the historic city of Nablus and promotes awareness campaigns in schools (Al-Houdalieh 2010, 47).

Israeli professional NGOs dealing with archaeology or cultural heritage are much less prominent than the Palestinian ones. Some archaeological sites located in Area C in the West Bank (e.g. Susiya, Tell Shiloh, the Biyar aqueduct, Qiryat Sefer) are managed by private organisations or local councils, run by Jewish settlers (Emek Shaveh 2012). Most Israeli conservation organisations, operating in Israel proper, choose not to work on the other side of the Green Line, although there are a few exceptions. For example, the Society for Preservation of Israel Heritage Sites, which restores and preserves heritage sites in Israel proper, has a single project in the West Bank – a museum for the commemoration of Jewish history in Gush Etzion, at Kibbutz Kfar Etzion (SPIHS 2013).<sup>3</sup>

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### 4.3.3 ACADEMIC INSTITUTIONS

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A few Palestinian universities have archaeological departments and conduct archaeological projects in Areas A and B of the West Bank (Al-Houdalieh 2009). The first Department of Archaeology to be established was that of Birzeit University, founded by Albert Glock in 1977, with the aid of the Albright Institute of Archaeological Research in Jerusalem. This was followed by the founding of archaeology programs at an-Najah National University in Nablus in 1991, at al-Quds University in 1992,<sup>4</sup> and at Hebron University in 2004. A few examples of Palestinian academic activities are Birzeit University's excavations at Khirbet Birzeit (Nashef and Abd Rabu 2000) and Khirbet Sayya; al-Quds University's excavations in Khirbet Shuweika; and an-Najah's excavations at Tell Sofar (Taha 2010, 21). Birzeit University has also been involved in archaeological surveys, such as the landscape survey in the region of Hisham's Palace in Jericho (Hawari 2010a), in collaboration with University College London.

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<sup>3</sup> Another example is the participation in a conservation project of a Byzantine church in the site of the Good Samaritan by the IAA (IAA 2012), despite their claiming that the IAA's Conservation Department works only within the boundaries of Israel (K. Sari, pers. comm.).

<sup>4</sup> Al-Quds University is located in Jerusalem, but runs projects in the West Bank as well.

Four Israeli universities used to be actively involved in archaeological excavations and surveys in the West Bank: Tel Aviv University, the Hebrew University in Jerusalem, Haifa University and Bar-Ilan University (Greenberg and Keinan 2007, 2009). At first these universities worked in the entire area of the West Bank, and after the Oslo Accords their activity was reduced to Area C. At least three of those are, or have been until very recently, still involved in West Bank archaeological projects; for example: the Hebrew University's excavations in Herodium (Netzer *et al.* 2009), 'Ein Feshkha (Hirschfeld 2004) and Hyrcania (Gutfeld 2008); Bar Ilan's surveys and excavations of caves in the northern Judean Desert (e.g. Porat *et al.* 2009); and Haifa University's excavations in the Jordan Valley (Bar *et al.* 2008; Bar and Winter 2010), as well as Adam Zertal's final survey of the Manasseh Hill Country (Zertal and Mirkam 2000; Zertal 2004, 2005, 2008).

European and American universities conduct archaeological excavations in the West Bank, mostly in Areas A and B (in cooperation with the Palestinian DACH), but also in Area C (under the Israeli SOA's excavation licenses). A few international universities are involved in excavation, survey and other projects in Palestinian areas in collaboration with the Palestinian DACH. At least five such collaborations have been taking place in Jericho: Rome 'La Sapienza' University's excavations in Tell es-Sultan since 1997 (Nigro and Taha 2011), recently including restoration works and site management; the University of Bergen's excavations at Tell el-Mafjar (Anfinset 2006); the Oriental Institute at the University of Chicago research project at Khirbet el-Mafjar (Hisham's Palace; Whitcomb 2011), a landscape survey of the same region, conducted by University College London and Birzeit University (mentioned above), and the establishment of the Russian museum compound, which included the preservation of its biblical Zacchaeus' sycamore tree and preceded by a salvage excavation, revealing Byzantine structures (perhaps a monastic complex). Tell Balata in Nablus is also a focus of international collaboration between Leiden University, DACH and UNSECO, preparing the site as an archaeological park (Tell Balata 2011). As for archaeological projects in Area C, a few American projects have taken place for over a decade. The Association for Biblical Research, an independent Christian ministry, conducts archaeological excavations at Kh. el-Maqatir (e.g. Wood 2001); and there were also excavations in the Qumran Plateau by Trinity Southwest University (Price 2005).

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#### 4.3.4 INTERNATIONAL ORGANISATIONS

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The international community is, as mentioned above, involved in archaeological projects and cultural heritage initiatives in the West Bank. There is much international attention paid to the preservation of cultural heritage and the promotion of local archaeological research through excavations, surveys and documentation in general. While different academic institutions choose to collaborate both with the Israeli SOA and the Palestinian DACH, international organisations such as UNESCO (with a branch in Ramallah), ICCROM, ICOM and ICOMOS work solely with Palestinian institutions on Palestinian territories. In addition, foreign governments and funding organisations support Palestinian projects. One example of such project is the rehabilitation of Hisham's Palace in Jericho, conducted by DACH in collaboration with UNESCO, Studium Biblicum Franciscanum, ANERA, USAID, and Birzeit University, funded by the Italian government (Piccirillo 1989).

An important initiative was hosted by the World Heritage Committee in 2002, requesting UNESCO to provide Palestinian institutions with assistance in protecting cultural heritage (Antonelli 2006, 83-90). The 'UNESCO Programme of assistance for Rehabilitation and Development in the Occupied Palestinian Territory 2004-2007' had positive outcomes, such as the creation of the 'Inventory of Palestinian Cultural and Natural Heritage Sites of Potential Outstanding Universal Value' (MoTA-DACH 2005; see Section 5.4.5.1), and a capacity-building program for Palestinian institutions which included international training workshops held in collaboration with ICCROM (in 2003-2004), and with UNESCO (in 2005; Nigro and Taha 2006). UNESCO's office in Ramallah also devised awareness-raising workshops for the "importance of the preservation of cultural assets and monitoring of state of conservation for selected sites" (Antonelli 2006, 89), held in different locations in Palestine. Recently, in October 2011, Palestine was admitted as a full member of UNESCO (BBC News 2011).

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#### 4.3.5 SUMMARY

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A variety of organisations are involved in archaeological endeavours and cultural heritage initiatives in the West Bank. The Palestinian DACH, NGOs, Palestinian and foreign academic institutions, as well as international organisations, work independently or in collaboration in Palestinian Areas A and B. The Israeli SOA, INPA, and Israeli and foreign academic

institutions operate in Area C of the West Bank. Many different projects have been conducted in both Israeli and Palestinian areas: excavations, surveys, conservation and rehabilitation projects, site management, professional training, and public awareness campaigns. However, there is no official cooperation between Palestinian and Israeli archaeological institutions, which work independently from one another. In the next section, the past and present activities of these institutions and others are explored, in particular with the aim of outlining Palestinian and Israeli archaeological research interests and heritage management priorities.

#### 4.4 ARCHAEOLOGICAL RESEARCH INTERESTS AND CULTURAL HERITAGE MANAGEMENT PRIORITIES

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“The Arab-Israeli conflict is not fought by machine guns and fighter jets alone, but also by shovels, in pits, school curricula, and on computer screens” (Yahya 2005, 68)

This section describes the development of present-day Israeli and Palestinian archaeological research interests and cultural heritage management priorities, while applying theoretical concepts and other ideas introduced in the previous chapter. This examination is a necessary step towards a detailed analysis of West Bank inventories. In conjunction with theories explored in Chapter 3, it provides a solid background of the types of archaeology and heritage that are found *valuable* by Israelis and Palestinians. Evidence of research interests and priorities described in this section will later on be sought for in Israeli and Palestinian databases, which constitute conscious or unconscious decisions about what types of data should be collected and used. In order to understand the current archaeological profession and heritage practices in the region, one ought to explore the roots of this discipline, and therefore the first section below begins with a short historical overview of archaeological practice in the region.

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##### 4.4.1 HISTORICAL BACKGROUND

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In the mid-19<sup>th</sup> century, European archaeological expeditions started exploring the Holy Land in order to study and map its history and archaeology. The ultimate goal of the Palestine Exploration Fund (PEF), established in 1865 (Lipman 1988; Ben-Arieh 1999a,

136-141; Moscrop 2000), was to reveal biblical places and events, a goal motivated by Christian sentiments, a sense of religious and historical affinity to the Old Testament, and an aspiration to search for Christian-historical roots in the Holy Land through the uncovering of archaeological sites and finds. This aim was clearly stated by the earliest British surveyors themselves, claiming that the “main object of the Survey of Palestine may be said to have been to collect materials in illustration of the Bible” (Conder 1878, xxi). The history and cultural heritage of the local population was of much less interest to these expeditions, and, as sociologist Baruch Kimmerling (2000, 60) put it, “most of the 340,000 inhabitants of the territory were completely unaware of the importance of their locale to ‘the world’, and how many plans, discussions and competition among the elite of Christian, Western and capitalist societies over the ‘Holy Land’ had taken place”. This British initiative was followed by the establishment of additional Western schools of archaeology: Deutsche Palästina Verein, École Biblique et Archéologique, and the American Schools of Oriental Research (ASOR; Ben-Arieh 1999b, 111-131). These archaeological institutions established the practice of archaeological research in Palestine at the beginning of the 20<sup>th</sup> century.

With the end of World War I and the collapse of the Ottoman Empire, the British formed their administration in Palestine, which lasted until the establishment of the State of Israel in 1948. During the Mandate period, archaeological activity thrived, continuing the legacy of the Western archaeological institutions recently established (Gibson 1999; Ben-Arieh 1999a, 1999b). Many archaeological projects such as excavations, surveys and the creations of lists of sites and monuments were conducted during this time, the main interest remaining the biblical past and Judeo-Christian traditions. Following the establishment of the above mentioned archaeological societies during Ottoman rule, the British established the British School of Archaeology in Jerusalem in 1919, followed by the foundation of a local Department of Antiquities in 1920. In 1929, the British Mandate issued the Antiquities Law (see Section 4.2.2.1). The new department was responsible for all archaeological activities in Palestine. In 1938, the Palestine Archaeological Museum (Rockefeller Museum) was established for the storage of finds uncovered in excavations in Palestine during the 1920s and 1930s.

In the aftermath of the Arab-Israeli War and the establishment of the State of Israel in 1948, Israel gained archaeological sovereignty over its own new territory. At the same time, Jordan assumed responsibilities for the West Bank, where the local Department of Antiquities was combined with the Jordanian Department of Antiquities. Archaeology in

the West Bank continued to be conducted mainly by foreign expeditions and institutions such as École Biblique (digging at Tell el-Farah and Khirbet Qumran), ASOR (working in Tell Balata), and the British School of Archaeology (working in Jericho). Until 1956, the director of the Department of Antiquities was a British archaeologist, later replaced by Jordanian personnel (Silberman 1998, 18).

The 1967 Six-Day War marked the beginning of Israeli occupation of the West Bank, and the establishment of a Staff Officer for Archaeology (SOA), the archaeological extension of the civil administration in the region. From this point on, it was Israel who conducted archaeological projects in the West Bank, according to its own interests and agendas, while the Palestinians were prevented from carrying out their own excavations and research (Al-Ju'beh 2008a, 2). As previously discussed, this situation changed with the signing of the Oslo Accords and transfer of some areas of the West Bank under Palestinian control. The Palestinian Department of Antiquities, established in 1994, took over all archaeological responsibilities in Areas A and B. Palestinian and international NGOs started working in the Palestinian West Bank as well.

Hence archaeological scholarship in Israel/Palestine started with foreign expeditions arriving in the Holy Land to look for tangible evidence of biblical and Christian traditions. Israeli and Palestinian scholarships began at different points in time, and took different routes as they developed. The next section describes in more detail the beginning of Israeli and Palestinian expertise, focusing on current archaeological research interests and heritage management priorities.

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#### 4.4.2 ISRAELI RESEARCH INTERESTS

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Inheriting many of the biblical motivations of its predecessor Western investigators, Israeli archaeology started off as a nationalistic profession. Archaeology was a very important factor in providing historical roots and unifying the highly diverse diasporic Jewish populations, arriving in the newly established State of Israel (Shavit 1997). Unifying historical myths, being a prominent element in the process of nation-building (Smith 1999), were deemed a necessity for the formation of the Israeli society and the finding of common national ground. Thus, Israeli archaeology was largely nationalistic through the 1950s and 1960s, a tendency reflected not only in archaeological research, but

also by the choice of archaeological sites to serve as national parks (Killebrew 1999, 19). The idea of a 'national rebirth' was widely espoused in Israeli society, where "participation in excavations had come to be a ritual for Israeli schoolchildren, soldiers, and foreign visitors" (Silberman 1989, 9).

Nationalist aspects of Israeli archaeology were reflected especially clearly in the prominent practice of biblical archaeology (Silberman 1998; Davis 2004; Kletter 2006), which promoted the search for Jewish roots by uncovering sites mentioned in the Bible, and sought to strengthen the veracity of biblical narratives. Other periods brought into prominence by this agenda were of the Jewish Hasmonean kingdom in Judea (Hellenistic period) and the Second Temple period (Roman period), including what is probably the most well-known formative myth, the story of Masada (Ben Yehuda 1995, 2002; Zerubavel 1995), reinforcing a Jewish narrative of bravery, resoluteness and loyalty to their people and country. This was seen as a valid and important way of legitimising and justifying the presence of Israelis in their historic land.

For these reasons, biblical and other Jewish-related archaeological sites and occupational layers received more attention than sites from other periods (Yahya 2005; Al-Ju'beh 2008a; Sayej 2010). Thus, most archaeological excavations were focused on Bronze and Iron Age sites to the neglect of Islamic and later periods. However, even in its formative phase, Israeli archaeology was not isolated and had generally been operating within larger theoretical and methodological frameworks of Near Eastern archaeology (Rosen 2005, para. 23). Negligence and disinterest in the more recent periods, including Islamic periods, were common practice in other countries of the Middle East and the Mediterranean (Bernbeck and Pollock 2005, 42; Kletter 2006, 315; Baram 2007, 302), attested even by the outright bulldozing of Ottoman period remains (e.g. Özdoğan 1998; Seif 2009).

However, even today, when less attention is still being paid to the Islamic past of the region, including a few rare continuing cases of the bulldozing of late periods in order to reach earlier periods of interest (Sayej 2010, 61), it is clear that intentional destruction of strata perceived as of less interest was never a normative practice in Israeli archaeology (Scham 2010, 94). The exclusion of Islamic period remains and artifacts in archaeological excavations is not common practice in today's Israeli archaeological discipline (e.g. Baram 2002), even though Israeli archaeologists may be "hesitant to state how many such artifacts from their sites have actually been studied" (Scham 2001, 204). Evidence for interest or disinterest in certain periods of archaeology has become more subtle, as Israeli



archaeology today deals extensively with periods that do not relate to the biblical story: prehistory, Early Bronze Age, classical archaeology, etc, and many research projects are no longer so easily pigeonholed as Jewish or Zionist archaeology (Rosen 2005, para. 19).

The Israeli archaeological paradigm started shifting in the 1960s, due to the wider impact of Anglo-American moves towards New or Processual Archaeology (*contra* Shay 1989, 770-771), later on adopting post-processual theoretical approaches (starting in the 1990s and to this day). As the need to shape the Israeli collective identity was gradually diminishing, archaeology became less of a passionate national hobby and more of a professional academic discipline (Feige 2008, 13), aligning itself with contemporary European and North American approaches (Rosen 2005, para. 3) whilst also aiming at “greater professionalization and international integration” (Hallote and Joffe 2002, 89). Whereas some academics still accuse the Israeli agenda of being nationalistic (e.g. Abu el-Haj 2001), many scholars have already pointed out that this view is an outdated stereotype (Broshi 1987; Baram 2002, 2007; Rosen 2005; Feige 2008; Greenberg 2008b; Yekutieli 2008; Scham 2010) and offer a more accurate, revised account of the archaeological discipline, and the way it is integrated with the wider socio-economic and political realities in present day Israel. According to this revised perspective, and in step with my own views, Israeli archaeology entered a post-nationalistic phase decades ago. The compilation of articles edited by Feige and Shiloni (2008) best describes the shift occurring in the Israeli archaeological discipline, emerging in the 1960s and continuing to form the discipline to this day. As new generations of Israeli-Jews were born in Israel, and had no need for archaeology to confirm their roots in the land, Israeli archaeology has ceased playing a role in social integration: it “grew apart from dealing with national questions and focused on its professional development inside the academia and in the framework of the Israel Antiquities Authority” (Feige 2008, 9).

The discipline has clearly been developing greater self-awareness by developing a more critical stance towards its past nationalistic narratives. More generally, many secular Israelis appear to be “self-assured enough to accept a historical compromise with the Palestinians in a pragmatic mood of post-Zionist open-mindedness” (Elon 1997, 45). The corresponding decline of nationalism and collective identity creation is pertinent to the process of increasing disciplinary professionalism and scientific criticism, which continually challenge the veracity of biblical stories (e.g. Herzog 1999, 2008; Finkelstein and Silberman 2001). As archaeological research continues to undermine the existence of major biblical personalities or events, instead of wholly supporting them, professional

archaeologists accepting the biblical narrative as perfectly reflecting historical reality are nowadays rare (Feige 2007, 291). Even so, despite the considerable decline of Israeli public interest in archaeology, many Israelis still find the mere debate over the historicity of the Bible very disturbing (Hallote and Joffe 2002, 99).

Although current mainstream Israeli archaeology, as an academic discipline, almost completely lacks a nationalist component, archaeology in Israel has a variety of populations of interests, or 'consumers', exploiting, manipulating and appropriating it for their needs. Religious-nationalist groups, West Bank Zionist-messianic settlers, politicians, governmental and professional institutions continuously politicise, nationalise, idealise and commodify archaeology (e.g. Greenberg 2007). Those groups generally prompt a negative reaction from both secular Israelis in general and professional archaeologists in particular, with the latter group not willing to feed nationalist manipulations or accept criticisms that they too are ideology-driven and/or biased (e.g. Dahari 2009).

One example of a sector in the Israeli society which appropriates archaeology to its needs is the former fundamentalist religious organisation called Gush Emunim, which aims at encouraging the establishment of Jewish settlements in the West Bank as part of a nationalistic and ideological enterprise (Feige 2007). This group took great interest in archaeology, hoping for its support of their claim for legitimacy over the West Bank as part of the promised Holy Land, an aspiration still very prominent among settlers today. But the attempt to appropriate archaeology as part of a national discourse is not only the lot of extreme messianic groups, but also demonstrated by the controversial and provocative announcement by the Israeli Prime Minister that two major religious West Bank sites would be added to Israel's national heritage list (Friedman and Lazaroff 2010; NAD PLO 2010), followed by Israel's launch of a Year of National Heritage, a five-year project promoting Jewish sites in Israel and the West Bank (Berg 2013).

This type of 'abuse' of archaeology may strive to gain political profit but can also be derived from economic considerations, "according to someone's idea of what sells" (Silberman 1995, 260). As Baram points out (2007), Israel's need to boost its tourism industry has surpassed its nationalist and ideological needs. As a result, the archaeological past is being manipulated to attract tourists, especially of Western origin. Tourism is a political tool since it emphasises certain themes in a country's cultural heritage and downplays others. Whoever dominates the tourism development agenda has the power to "inject specific cultural or political perspectives into their country's various sites, which

together create an overall, and indubitably subjective, image of the country” (Cohen-Hattab 2004, 62; see also Killebrew 2010).

However, just as certain interest groups exploit archaeological sites and finds for their own nationalist, religious, political or economic agendas, archaeologists also take advantage of these types of ‘consumers’ for their own benefit (Yekutieli 2008). This manipulative reciprocity is apparent when archaeologists, raising funds for their research, are facilitated by the interests of this group or another in specific archaeological themes. In order to increase their chances of getting project funding, “archaeologists may choose a topic that interests them and at the same time will be attractive for the nationalist or religious discourse” (*ibid.*, 224). Controversial funding circumstances occur often in university projects but also in the Israel Antiquities Authority (IAA), as demonstrated by the dubious funding of extreme right-wing or ultra-Orthodox religious organisations (El’ad and the Western Wall Heritage Foundation respectively) of IAA excavations in East Jerusalem (Emek Shaveh 2013). Many academic excavations in Israel proper are also funded by individuals (e.g. the expedition of Tell Rehov is supported by one private donor), charities or university departments with clear Judeo-Christian affinities (e.g. the sponsors of the excavations in Ashkelon). However, while archaeological research of later periods has been receiving little financial support in the past due to lack of interest, this has been gradually changing, as attested by more Ottoman period research projects (Baram 2002) for example.

Funding and tourism priorities are also clearly echoed in heritage management in the West Bank, for example, as demonstrated by the choice of national parks managed by the Israel National Parks Authority (INPA), which receives funds from the government. Shomron-Sebastia (ancient capital of the Kingdom of Israel), Nebi Samwil (tomb of the biblical prophet Samuel), Herodium (palace and tomb of King Herod) and Qumran (inhabited by a Jewish sect in the Roman period) are all sites with strong Jewish affiliations. The other four archaeological sites managed by the INPA are Christian: two monasteries, the Good Samaritan site and the Baptismal site on the Jordan River (INPA 2012, Judea and Samaria; Judean Desert and Dead Sea). The synagogue at Susiya is also in the process of becoming a national park (Weiss 2009). Other sites managed by settler organisations and local councils (such as Shiloh) also enjoy government funding, in addition to other sources of sponsorship (Emek Shaveh 2012). Moreover, in the Staff Officer’s future plans for opening archaeological parks in the West Bank in the course of

the year 2012, four out of five sites have a Jewish/biblical affinity (Civil Administration 2011, Hizmi's Forward).

When examining the history of excavations in the West Bank since 1967, overseas expeditions excavated almost exclusively at biblical/Jewish or Christian sites (as also implied by the names of many of these excavating institutions, e.g. the Associates for Biblical Research, Judaic Christian Institute, Greek Patriarchate, German Protestant Institute of Archaeology, or Southern Baptist Theological Seminary). Colonial 'remnants' can also be traced in the SOA's authority and general conduct (Greenberg and Keinan 2007, 16-20). Not being held accountable by the Israeli government or the Civil Administration in the West Bank, Staff Officers have been able to act as they see fit. The SOA can choose where to excavate (sometimes without any real justification, see Rjoob 2010), is the only body issuing excavation permits, and is not obliged to publish its findings. Without being subject to wider public accountability, the SOA's institutional power is almost absolute. This control over knowledge is wholly in step with wider colonial behaviour, most obviously highlighted in the past by the former Staff Officer, Yitzhak Magen, suggesting that he was a saviour of archaeology from Palestinian looting and unprofessional archaeological practice. Greenberg interpreted his remarks as being a "direct continuation of colonialist archaeology, which 'rescued' the antiquities of Greece from the Greeks and of Egypt from the Egyptians" (Rapoport 2006).

To sum up Israeli research interests, while the Israeli archaeological discipline is no longer nationalist, archaeological endeavours have 'consumers' who may divert and interpret scientific results to suit their ideological, political or religious attitudes. The tangible results of Israeli archaeological and cultural heritage priorities as they are manifested in the West Bank are: (a) choice of archaeological activities by the SOA as a governmental extension of Israel, as well as choices of excavating academic institutions; and (b) choices of national parks to be managed by INPA, local councils and settler organisations. Clearly, the biblical and Jewish narratives are still being disproportionately researched and presented in the West Bank, further promoting a longstanding imbalance with other cultural and historical narratives.

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#### 4.4.3 PALESTINIAN RESEARCH INTERESTS

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Palestinian archaeological scholarship can be traced back to 1920, with the establishment of the Department of Antiquities and the Palestine Oriental Society, both staffed mostly by foreigners (especially British), as well as Palestinians and Jews. The Palestinian voice was more prominent in the latter organisation, with articles published in the Journal of Palestine Oriental Society (JPOS) focusing on living cultural traditions such as folklore, Muslim shrines, sanctuaries and cult, and domestic architecture (Glock 1994, 74-76). However, with the increasing dominance of Jews within the local archaeological schools in particular, and their growing political dominance in general, Palestinian scholarship had stagnated. The establishment of the State of Israel in 1948 and the contemporary Arab-Israeli War resulted in the destruction of hundreds of Palestinian villages, flows of refugees outside of the newly established state, and a paucity of Arab academic institutions, all of which prevented Palestinian scholarship from further evolving.

The 1967 Israeli occupation of the West Bank was a turning point for the Palestinians. It marked the awakening of their interest in their own national identity, symbolised by tangible and intangible heritage such as vernacular architecture, archaeological and historical sites, holy places, and local traditions such as folklore songs and dance, embroidery, pottery and others. Their connection to the land and collective identity was reinforced by this cultural heritage, which became essential to the formation of their identity, and its protection thus became a great necessity (Al-Ju'beh 2008a, 2-3). It is notable that Palestinian symbols of identity rely more on movable objects than on immovable heritage, due to many of them being refugees. Personal objects taken by refugees in flight can be seen as ancestral mementoes, which convey generational continuity and socio-cultural symbolism (Parkin 1999). Such objects, in addition to intangible Palestinian traditions, are part of a Palestinian heritage which includes "*kufiyyah*, embroidery, traditional songs, *dabka*, house key, pictures, land registration document, Palestinian passport (British Mandate), map of Palestine, picture of the Dome of the Rock and many stories about places, which are full of nostalgia" (Al-Ju'beh 2008b, para. 30).

The 1970s and 1980s marked the beginning of the Folklore Movement, reflected in the establishment of local heritage organisations and research centres aiming at the study of local Palestinian heritage and traditions. The main trigger for these initiatives was the

increased perceived threat to Palestinian identity after the 1967 occupation (de Cesari 2010a, 631). In addition, the establishment of the first department of archaeology in a Palestinian university in 1977 marked the beginning of academic Palestinian archaeological scholarship.

Following the Oslo Accords, Palestinian efforts to promote their collective narrative have been increasing. This is apparent in different aspects of heritage production. For example, many publications have been focusing on Palestinian architecture and their traditional decorative elements (Amiry and Sobeh 2000; Khasawneh 2001; Amiry and Rahhal 2003; Amiry and Tamari 2003; Sharif-Safadi 2008), while other publications discuss local crafts, such as traditional pottery production (Salem 1999). Other manifestations of this emphasis on local traditional heritage could be seen in “restoration or reconstruction of pre-*Nakba* building styles, revival of folk traditions, materializing the memory of pre-*Nakba* era by scholarly studied volumes, novels, collections, memorizing freedom martyrs... etc” (Bshara 2007, 5). A variety of Palestinian non-governmental organisations have been established over the course of time, aimed at highlighting and addressing these different aspects of local heritage (see Section 4.3.2).

Feeling excluded by the prominence of a biblical/Judeo-Christian themes in local historical and archaeological research, the Palestinian approach to the Israeli/Jewish narratives was at first to avoid discussions on relevant historical periods or treat them only minimally (Killebrew *et al.* 2006, 18), while focusing on Islamic history and archaeology. Since the Oslo Accords, the tendency in Palestinian investigations has been to “discount, excise, or wholly revise the questions of ancient Israel and any Jewish presence” (Hallote and Joffe 2002, 112 no. 50). This determined resistance to the most prominent Western-Israeli historical narrative, alongside the promotion of the local-indigenous narrative, can be seen as a struggle against colonial ‘knowledge’ and its production (de Cesari 2010a, 2010b).

Palestinian heritage practice may be viewed as a form of political action against the occupation and the violations of international laws and agreements by Israeli archaeological institutions, aiming at legitimising local culture, traditions, and rights to the land. Palestinian cultural heritage developed “mainly as a *reaction* to the denial of the existence of a Palestinian identity and as a *reaction* to the destruction of more than 400 Palestinian villages and towns in the aftermath of the 1948 war” (Al-Ju’beh 2008b, para. 21; own emphasis). I would tentatively suggest that this reaction derives from two motivations: first, an anti-colonial resistance to the Israeli occupation and to Western

hegemony over historical, archaeological and cultural knowledge; and second, the rebuilding and restoring of the Palestinian past, collective memory and social identity (de Cesari 2010a). There is also a sense of urgency to protect local heritage in the face of Israeli expansion in the West Bank. Accordingly, Palestinian universities, NGOs and governmental bodies address a different narrative of the past than various linked discourses being promoted since the 19<sup>th</sup> century by European, American, and Israeli scholars.

One aspect of Palestinian research emphasis has been the study of explicitly Islamic heritage, in part to counter a lack of intellectual discussion of Islamic traditions and the perceived lack of connection between these traditional and present-day communities (Glock 1994, 77). A main focus of Islamic archaeology by Palestinian scholars is on Islamic art history. Addressing this facet of tangible Islamic heritage involves acknowledging the advanced artistic and architectural craftsmanship present during Islamic periods, duly providing a type of heritage that “elicits pride” (*ibid.*, 78), and is thus promoted with the aim of creating a wider sense of cultural respect.

The interest in Islamic periods is manifested in university projects as well as the activity of Palestinian NGOs in the West Bank. After the establishment of the department of archaeology in Birzeit University, one of the areas of research that was put forward was Mamluk and Ottoman archaeology. The innovative research project in the Palestinian village of Ti’innik (located at the foot of the biblical Tell Ta’anakh) focused on the continuity and change in material culture, starting more than 500 years ago until this present day (Ziadeh 1991). Researching the most recent past of Muslim communities provided “physical evidence for a history and traditions that are still alive” (Ziadeh-Seely 2007, 335). Despite the fact that the excavations in Ti’innik following contemporaneous theoretical approaches such as processual archaeology and direct historical approach, they were evidently political (*ibid.*, 339). Another academic example of the promotion of Islamic studies is the establishment of the Higher Institute of Islamic Archaeology in Jerusalem at al-Quds University in 1992. The scholars founding this institute recognised the “lack of local institutions in which young Palestinians could be trained to conduct research that focused on the Islamic periods” (Sayej 2010, 63). An illustration of local NGOs advocating the connection between Islamic heritage and present day local communities can be seen in Hebron Rehabilitation Committee’s design of a master plan for the Old City of Hebron, emphasising on its “connection with the Abraham mosque” (Qawasme 2006, 163).

One factor contributing to the shape of a Palestinian archaeological agenda is traditional Islam's contempt of cultural remains from the pre-Islamic era, or the age of ignorance – the *Jahiliyyah*. Aiming to prevent Muslims from adopting pre-monotheistic way of life and religions, Islamic tradition “encourages the detachment of Muslims from the distant past” (Ziadeh-Seely 2007, 331). However, in contradiction with Islamic mythology, there is also a Palestinian approach which strives to demonstrate the contrary: an ethnic/cultural continuation from Canaanites or Philistines through to modern societies (Hallote and Joffe 2002, 112 no. 50). In response to Israeli claims that they enjoyed greater legitimacy as inhabitants of the land because they had in some way lived there prior to the Palestinians, there is an assertion of precedence on the Palestinian part, based on the claim that their culture could be traced back to the Bronze and Iron Ages. This argument for cultural continuity is typically underpinned with reference to the ancient names of towns and villages, or traditional Palestinian agrarian methods originating in the more distant past (Yahya 2005, 68).

Another prominent aspect of Palestinian archaeology is a focus on ethnoarchaeology – an approach going hand in hand with more research and excavations of the Ottoman period (e.g. Ziadeh-Seely 1999, 2000; Nairouz 2008). Anthropological and ethnographical research of living traditions was promoted by Glock in the early phases of the department of archaeology in Birzeit University as an alternative to the biblical approach to the study of the past (Salem 1999, 66). One example of such studies of local traditional crafts, previously mentioned, is the study of traditional Palestinian pottery production (Glock 1982; Salem 1999).

Bringing some of these different stands together, Ziadeh-Seely (2007) discusses this need for a *Palestinian* archaeology that might be directly relevant to the Palestinian national struggle for identity and legitimacy. According to her, academic attempts to create such ethnic links between the past and the present based on the archaeological record have been unsuccessful, and compromise disciplinary professionalism by being political and nationalistic (*ibid.*, 326, 330). Thus, although encouraged by Palestinian scholars for a while, this type of discourse is now generally not approved of among Palestinian academics. Outside of academic spheres, activities of Palestinian NGOs reflect Palestinian awareness, appreciation and growing interest in their ethnographic heritage. The Palestinian Association for Cultural Exchange (PACE), for example, has been involved in projects preserving and promoting traditional handicrafts (PACE 2009, Previous Projects,



Ongoing Projects). The inclination towards local traditions and ethnography is also attested by the establishment of local ethnographic museums.

Another eminent priority of Palestinian heritage management is a focus on traditional vernacular architecture and its rehabilitation. The continuation of Palestinian cultural heritage is contingent on the preservation of traditional buildings, since this indigenous type of architecture is an expression of Palestinian cultural identity (Yousef 1997). In his paper about urban and rural architectural traditions in Palestine, Fethi (1997) stresses the importance of continuing with the line of past architectural traditions when planning modern Palestinian architecture. This architectural continuity symbolises the cultural continuity of the Palestinian people. Thus, modern housing should be designed to “reflect the cultural and national aspirations of the newly emerging Palestinian state,” and would “help to generate a sense of belonging and national pride” (*ibid.*, 393). The renaissance of traditional Palestinian architecture of private and public buildings, as well as holy places, makes Palestinians proud of their past; therefore ongoing efforts to rehabilitate this type of architecture are politically driven (Bshara 2007, 5).

Due to this important connection between their cultural identity and traditional architecture, the Palestinians have been very active in preserving historical buildings, enabling them to express the continuous relationship between themselves and the landscape. Many rehabilitation projects focus on historic city centres – the old cores of ancient towns, as they manifest the “features of Arab-Islamic cities” (Abdelhamid and Amad 2005, 29). The Palestinian DACH and NGOs – mainly Riwaq, the Hebron Rehabilitation Committee (HRC) and the Centre for Cultural Heritage Preservation – have been conducting rehabilitation projects in the West Bank.

One of the main objectives of HRC, an organisation engaged in rehabilitation projects since 1996, is to “preserve the cultural heritage as a key element for keeping the collective identity of the people of Hebron” (Qawasme 2006, 159). This mission of the HRC is considered both crucial and urgent in the face of the expansion of Jewish settlement inside the Old City of Hebron. The HRC strives to repopulate neglected areas of the Old City with Palestinian residents, by addressing both community needs and the rehabilitation of the built heritage (*ibid.*, 162) in order to “counteract the Israeli political pressure” (*ibid.*, 159). In this sense, HRC’s mission is a political and anti-colonial act of *resistance*, struggling to reclaim “the city by remaking its space and restoring its identity and past” (de Cesari 2010b, 18). The physical restoration of the built heritage in Hebron is perceived as the

restoration and revitalisation of Palestinian identity. Riwaq, another organisation dealing extensively with the conservation and preservation of traditional buildings (see Section 4.3.2), also participates in the national endeavour to urgently preserve what is left of Palestinian vernacular architecture and the “very ‘Palestinianness’ of place” (de Cesari 2010a, 630). It is interesting to note that this focus of Palestinian NGOs on the preservation of traditional architecture was naturally on Ottoman period structures, neglecting the preservation of archaeological sites, with only one exception (Al-Houdalieh 2010, 47).

Another example of Palestinian interest in the more recent past is archaeological investigations of Palestinian refugee camps. Alongside ethnoarchaeology, studies of Palestinian villages and refugee camps were also promoted by Glock in the 1970s and 1980, when several examinations were conducted at refugee camps (Ziadeh-Seely 2007, 334). This type of research is significant to Palestinian communities as it contributes to “understanding the real world of Palestine today” (Glock 1994, 82). More recently, PACE was involved in projects documenting refugee camps (PACE 2009, Previous Projects).

As mentioned at the beginning of this section, intangible heritage is a major aspect of contemporary Palestinian cultural heritage. The study of oral history is embedded in Palestinian academic agenda. A few oral history projects were mentioned by Ricks (1999, 30-32) as a practice of recovering Palestinian history (e.g. Yahya *et al.* 1994; Damen and Damen 1997). Also PACE is involved in documenting Palestinian oral histories (Rogan 2007; Al-Houdalieh 2010, 47-48). More recently, there has been an abundance of initiatives aiming to commemorate the *Nakba* (the ‘Catastrophe’) – the destruction of Palestinian villages and expulsion and fleeing of about 700,000 Palestinian refugees in 1948 (Khalidi 1992; Sa’di and Abu-Lughod 2007). Among these are “personal recollections and public projects of narration, oral-history research, and films, novels, plays, and many village memorial books written by refugees” (de Cesari 2010a, 632). These commemoration and remembrance endeavours signify national survival through the strengthening of Palestinian collective memory (de Cesari 2010b, 19).

To sum up Palestinian research interests, it is evident that different types of cultural heritage are promoted by Palestinian institutions, a heritage that strengthens a sense of pride and collective identity in the face of Israeli dominance over historical narratives and cultural knowledge production. The tangible results of Palestinian archaeological and cultural heritage priorities are: (a) many rehabilitation projects of traditional architecture

conducted by organisations created for that purpose, and much fewer conservation projects of archaeological sites; and (b) promotion of local traditions by public awareness campaigns and the construction of local museums. While the concept of universal cultural heritage is promoted by DACH (MoTA-DACH 2005) and by several Palestinian scholars, there is a clear emphasis on the study of the archaeology, history, culture and traditions that are more relevant to the local Palestinian communities.

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#### 4.4.4 DISCUSSION

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Many interesting insights arise from the overview of Israeli and Palestinian research interests and heritage management priorities offered above, especially with regards to some of the theoretical concepts presented in the previous chapter. With reference to theoretical notions of social identity (Section 3.3.1), it is evident that collective/national identities are being promoted through archaeology and heritage practice by both sides. Israeli and Palestinians use archaeology and heritage to legitimise their settlement in the land. In fact, both sides are engaged in a battle for cultural identity, as one aspect of the wider Israeli-Palestinian conflict. Israeli research interests are identity driven: while there is no intentional exclusion of Islamic periods from archaeological investigations, it is evident that there is still much more emphasis on biblical periods such as the Bronze and Iron Ages, and sites affiliated with Jewish history. Palestinians generally promote any type of heritage which directly relates to present-day Palestinian communities. The creation and maintenance of a *collective memory* is important to both sides, especially the Palestinians due to the more recent memory of the *Nakba*. Heritage is used as a means to unify identity of “different Palestinian groups spread out all over the Middle East and the rest of the world” (Al-Ju’beh 2008b, para. 30). Similarly, Israeli archaeology in its early phases was used to create a common identity among diasporic Jews, arriving to Israel from diverse backgrounds.

The main difference between Israeli and Palestinian research and heritage management priorities is temporal: while Palestinians have a general tendency to focus on the recent past and its connection to the present, Israelis focus on the more distant past. Palestinian increased emphasis on Ottoman archaeology and architecture is logical since, until recently, Palestinians have not been “in control of their own archaeological record” (Glock 1994, 80). Glock also claimed that while Palestinian agendas are “generated with a view to

the[ir] needs, values, and interests” (*ibid.*), Israeli archaeological agenda, originated from Western Judeo-Christian ideas, is not. He sought to refute the claim that Palestinian archaeology is “the other side of the coin” of Israeli archaeology (*ibid.*, 83), both being politically motivated. In my opinion, while archaeological and cultural heritage initiatives may stem from different motivations, the results are quite similar – the promotion of a heritage that *matters* to the community within which it is practiced. Similarly, I think that Israeli archaeology serves the needs, values and interests of different sectors in the Israeli society as well; in this sense, it is no different from Palestinian archaeology. In fact, it is not surprising that the ‘opposition’ stance developed by Palestinian scholars and professionals (Rosen 2005, para. 46; Ziadeh-Seely 2007, 329; Starzmann 2010, 133), to some extent, chose to “adopt the language and methods of the controlling one” (Scham 2001, 201).

The colonial history of archaeological investigations in Israel/Palestine (Section 3.3.2) has influenced archaeological and historical disciplines in two complementary ways: the promotion of one corpus of cultural knowledge – the Judeo-Christian biblical version of history, and at the same time the silencing of another – the Islamic Palestinian more recent past. Colonial endeavours in the form of archaeological expeditions to Palestine were in search of reinforcement for their cultural-religious Western identities, by authenticating biblical accounts in the field, whilst at the same time generally ignoring and neglecting Palestinian history. As an occupying power, and as a continuation of colonial control, Israel still uses its political dominance to keep promoting its interests on the ground with surveys, excavations and management of specific archaeological sites. The imbalance of political power between local Palestinian communities and the West/Israel resulted in an asymmetry of archaeological and cultural knowledge production, and in a series of stand-offs between more privileged and more disenfranchised narratives.

As demonstrated in this section, Palestinian resistance to the current relations of power, the asymmetrical control over knowledge, and Israeli breaches of international law is evident not only on the political level, but also on the cultural level. The four models of ‘Archaeology of the Disenfranchised’ suggested by Scham (2001) apply to the ways Palestinians practice archaeology and cultural heritage management. Elements of reaction, resistance, pride, and a sense of urgency to recover local heritage have all been evident in Palestinian research priorities since the beginning of Palestinian heritage practices and the establishment of local heritage institutions. The emphasis on ethnographic studies, for example, is one element in the model of the ‘Archaeology of the Colonised’ described by Scham. The Palestinian approach to resisting the Israeli version of the past, by

emphasising the Islamic cultural past and by promoting ethnographic researches, fits Scham's 'Reaction/Resistance Model', and corresponds with similar approaches in postcolonial Egypt and Greece, with growing focus on Islamic culture in Egypt (e.g. Hassan 1998) and on the Byzantine period in Greece. The 'Heritage Recovery Model' is applicable to the establishment of the Palestinian Folklore Movement in the 1970s, as well as the rehabilitation projects of vernacular architecture by organisations such as Riwaq and HRC. There is a sense of urgency to recover local heritage in the face of Israeli dominant cultural discourse and strengthening grip of lands in the West Bank. A sense of pride is derived from dealing with monumental and artistic aspects of Islamic archaeology, and from preserving traditional architecture in particular or Palestinian heritage in general; therefore, the 'Heritage Pride Model' is also pertinent here.

The emphasis on certain research interests and specific types of heritage introduces selectiveness in choices of projects and in data collection and publication (Section 3.3.3). This selectiveness is a direct result of the socio-political contexts in which scholars and institutions operate. The assigning of values to certain archaeological features – such as Islamic or Jewish remains – is done by those who feel affiliated with what those remains symbolise for them. As seen in the case of Israel, funding bodies have an important role in the promotion of heritage close to their hearts. While many, if not most, of Israeli archaeologists are unaware that their professional choices are led by this personal agenda or another, they are being used by sponsors who open their wallets with a clear aim of promoting their ideological, political or religious viewpoints. Similarly, while some Palestinian scholars advocate the idea of a universal shared heritage, others choose to promote the types of heritage that are valuable for their communities. These opposing discourses on identity, influenced by the socio-political background of those who practice archaeology or heritage management, result in the promotion of different types of heritage and different archaeological narratives, while neglecting or ignoring other types.

To a great extent, Israeli and Palestinian approaches to heritage management fit respectively into the Conventional Approach (CA) and the Living Heritage Approach (LHA) models presented by Baillie and Poullos (Baillie 2009; Poullos 2010; Baillie-Warren 2012). The CA model, often used by Western/colonial heritage professionals, is based on specialised experts and views heritage as 'universal' and at times as a commodity. This approach separates the past from present and future, and therefore creates a discontinuity between present-day people and their past heritage. This kind of heritage is static, 'safely dead', and disengaged from contemporary communities. The LHA model refers to a

heritage that continues into the present and maintains its original values and function, a heritage that is dynamic and people-centred, focusing on the community's authentic associations with it. This type of heritage, being a religious site, an object or a tradition, has stronger social ties, is sometimes connected with a living memory, and in general matters more to the community; it demonstrates a continuity between past, present and future.

In general terms, Palestinian heritage practice fits into the Living Heritage model, while Israeli practice fits more into the Conventional model. However, these attributions are not conclusive and final. For example, certain modern Israeli communities, such as West Bank settlers or religious Jews, do experience a social/religious/emotional connection with archaeological heritage, albeit this being a different connection that the Palestinians may experience to their surroundings. Heritage sites are dynamic in the way that they can “move in and out of a ‘living’ state” (Baillie 2009, 499) – they can be reanimated and reconnected with contemporary societies, as is done by Jewish settlers (*ibid.*, 498). But in general, and as demonstrated in this section, the CA model fits the scholarly-advanced, expert-driven Israeli archaeological discipline, while the LHA model applies to grassroots heritage initiatives observed in the Palestinian society, as an attempt to preserve its identity through its heritage.

#### 4.5 SUMMARY

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This chapter has laid out the juridical, legal and institutional context for the practice of archaeology and cultural heritage management in the West Bank. This practical background was followed by an overview of the research agendas or interests of the Palestinian and Israeli bodies engaged in archaeology and cultural heritage management. This examination demonstrated both differences and similarities between Palestinian and Israeli organisations, often clearly reflecting their relative positions in terms of socio-political and cultural power. The occupier and the occupied view archaeology and heritage management differently, and colonial endeavours are still echoed in the present day production of knowledge and promotion of interests. Israeli and Palestinian archaeologists also perceive the archaeological landscape of the West Bank differently, since they approach it from very different socio-political and disciplinary backgrounds. This inevitably has a significant impact on any aspect of their research, from the research

questions asked to the methods used for data collection to the interpretation they prefer. These differences, in turn, have a considerable effect on the creation of formalised archaeological inventories, as will be demonstrated in the following chapters. The next chapter will cover different aspects of archaeological documentation, heritage inventories and GIS, starting from global perspectives and ending in a thorough exploration of the status quo in the West Bank.

## CHAPTER 5. THE USE OF DATABASES AND GIS FOR CULTURAL HERITAGE MANAGEMENT

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### 5.1 INTRODUCTION

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This chapter addresses the creation and use of archaeological documentation and Geographic Information Systems in cultural heritage management, both in general and with specific regard to the West Bank. Its main aim is to consider current issues in archaeological data management, in order to establish a basis for further discussion in following chapters. The first section of this chapter (5.2) covers the topic of archaeological documentation, the creation of inventories and their role within cultural heritage management. It describes different aspects of documentation, and the ways that data collection and management are conducted globally. The following section (5.3) introduces GIS and its growing use in the recording, protection and management of archaeological and architectural heritage. The next section (5.4) provides a detailed description of West Bank databases, focusing on four major ones, those of DACH, SOA, Riwaq and the WBEJAD, all of which cover the entire West Bank. Different aspects of these and other databases are discussed in this section. This description will form a good foundation for further analysis in the next chapter.

The documentation of archaeological data and the maintenance of a comprehensive inventory are basic measures that underscore the efficient management of archaeological heritage – the devising of plans and strategies for its protection, monitoring, conservation, and presentation to the public. Recording becomes especially important and urgent when current cultural assets are vulnerable to threats such as urban development, agricultural activities, looting, armed conflict or military activities, vandalism or natural disasters. The creation and management of cultural inventories then become indispensable for the protection of heritage that is so significant to communities and their livelihoods. The next section deals with current approaches, principles and guidelines for archaeological and cultural heritage documentation, and the creation and management of archaeological inventories.



## 5.2 APPROACHES TO CULTURAL HERITAGE DOCUMENTATION

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“The basis for any rational policy for the selection of cultural resources for preservation and management must be identification of the extent and nature of those resources through survey and inventory. Only when this data base has been securely established does it become realistic to formulate strategies for the future” (Cleere 1984, 126)

Different steps need to be taken when approaching the management of cultural heritage in general and archaeological heritage in particular; these include the development of heritage management legislation, policies and strategies. However, a central and critical aspect of heritage management is the creation and maintenance of inventories of archaeological sites. An inventory providing up to date and accurate information on cultural heritage assets is a necessity for the preparation of protection policies. It is important to be aware of universal trends in heritage and archaeological documentation prior to investigating archaeological data collection and management in the West Bank. Nevertheless, this section does not purport to provide an exhaustive overview of universal guidelines for cultural heritage documentation, but rather to briefly present some of the important issues. While reviewing some international guidelines for cultural heritage documentation, a few aspects are discussed in this section, in order to answer the following questions: why is inventory creation important, and how does it fit into wider processes of cultural heritage management? When should it take place and what needs to be documented? How should data be managed? And, who is the target audience of professional heritage inventories?

The issue of cultural heritage documentation has been referred to by numerous local, national and international charters and guidelines, three of which will be mentioned here.<sup>5</sup> The first international document relating directly to inventory creation was the Athens Charter for the Restoration of Historic Monuments (1931), referring to the importance of creating a national inventory of ancient monuments across all countries (Athens Charter 1931, Article VII(c)). This document was followed much later by the Venice Charter for the Conservation and Restoration of Monuments and Sites (1964), providing a set of principles for the preservation of historic buildings and sites, and defining standards of practice regarding documentation:

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<sup>5</sup> For a full overview of documents and guidelines see Letellier 2011, 103-115.

“In all works of preservation, restoration or excavation, there should always be precise documentation in the form of analytical and critical reports, illustrated with drawings and photographs. Every stage of the work of clearing, consolidation, rearrangement and integration, as well as technical and formal features identified during the course of the work, should be included. This record should be placed in the archives of a public institution and made available to research workers. It is recommended that the report should be published” (ICOMOS 1964, Article 16)

Some very important aspects of documentation were already referred to in this concluding article of the Venice Charter: timing, methodology, precision, accessibility, dissemination and transparency. This charter was later complemented by the ICOMOS Principles for the Recording of Monuments, Groups of Buildings and Sites (1996). Recognising that recording is “one of the principal ways available to give meaning, understanding, definition and recognition of the values of the cultural heritage” (ICOMOS 1996, Preamble), this key charter aimed at setting guidelines regarding different aspects of cultural heritage recording. It included the following sections: (1) the reasons for recording; (2) responsibility for recording; (3) planning for recording; (4) content of records; and (5) management, dissemination and sharing of records. Considering the central role of this document in establishing international documentation guidelines, its contents will be briefly described and discussed here; some points of special relevance will be elaborated upon, in addition to other documentation aspects not dealt with by this charter.

*Why* is recording essential – what is it good for? According to the ICOMOS document, recording is a necessary measure taken in order to: promote interest in and understanding of heritage places and their values; inform decision-making prior to initiating any change to a heritage place (such as construction or conservation works), and establish a permanent knowledge base of heritage places that are at risk (ICOMOS 1996, The Reasons for Recording, Articles 1, 2). The ultimate objective for documenting heritage is, thus, the preservation of cultural heritage sites and knowledge on these sites for present-day societies and for posterity. Letellier (2011, 12) discusses the benefits of an efficient data management system, contributing to:

- More informed decision-making and improved prioritisation of project planning and budgeting
- Better monitoring of changes and consequent decisions on preventive measures

- More efficient data retrieval and data sharing among professionals
- Enhanced visibility, transparency and accountability relating to heritage information

With regard to the reasons for which documentation should take place, a related question not dealt with by the ICOMOS document is *who* is documentation beneficial for? As for the potential target audience of cultural heritage inventories, users can be classified into three types:

- 1) Decision-makers: those responsible for the management and protection of the cultural heritage. These include the authorities that are responsible by law for protecting cultural heritage: government ministries (including local departments of antiquities), municipalities and local councils. Also: NGOs and other heritage institutions, conservation professionals, tourism planners, urban planners and developers.
- 2) Researchers: academic institutions, research centres and individual scholars.
- 3) The general public: private landowners, local populations who are impacted by heritage management policies, people interested in promoting certain identities through the promotion of archaeology, culture, local traditions and crafts, etc, or people interested in the promotion of science and cultural knowledge.

As for *when* documentation should take place, the ICOMOS document refers to different points in time: the stage at which an inventory is scheduled to be compiled; during research or conservation projects; when interventions or changes of use are scheduled to take place; when historical evidence is revealed; and when a site faces immediate threat of human or natural character (ICOMOS 1996, *The Reasons for Recording*, Article 3). In this respect, documentation is a crucial and integral part of cultural heritage management, and should ideally take place prior to the destruction of a site or parts of it, and the loss of heritage knowledge for good. Fig. 5.1 demonstrates the central role of cultural heritage data and its reusability within processes of heritage management. As indicated, heritage data is necessary to be consulted with in all four main phases of heritage management: decision-makers would always go back to the raw data in order to be best informed.

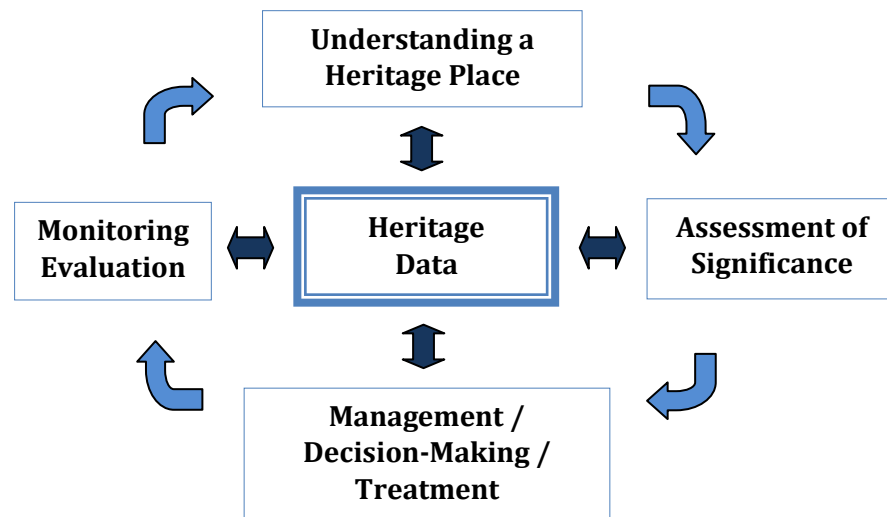


Fig. 5.1: The role of heritage data within cultural heritage management processes; after Letellier 2011, 12 fig. 3.

*Who* is responsible for documentation and the creation of inventories? The body responsible for the protection of heritage at the national level (i.e. the government) is the same one that is responsible for the recording of that heritage. Professionals and heritage management practitioners such as “heritage recorders, surveyors, conservators, architects, engineers, researchers, architectural historians, archaeologists... and other specialist advisors” are those parties that should take part in the recording of cultural heritage sites (ICOMOS 1996, Responsibility of Recording, Article 3).

The following section of the ICOMOS document refers to *how* planning should take place prior to recording, and what sources of information should be sought for. The first step of inventory creation is research – a thorough examination of the available and relevant sources of information. These could be found in “surveys, drawings, photographs, published and unpublished accounts and descriptions, and related documents...” (ICOMOS 1996, Planning for Recording, Article 1(a)). The background information about a site that requires documentation should be located, including its archaeological history, research and intervention history, and its current condition. It is also important to identify the site’s regional and cultural contexts, in order to understand its role in a wider landscape (Sullivan 1997, 18-19).

The second step in planning for recording should determine the appropriate scope, level and methods of recording (ICOMOS 1996, Planning for Recording, Article 2). Recording methods should suit the purposes behind the recording and the type of heritage being

recorded, whilst taking into consideration limitations such as budget and time. Adopted recording methods may include “written description and analyses, photographs (aerial or terrestrial), rectified photography, photogrammetry, geophysical survey, maps, measured plans, drawings and sketches, replicas or other traditional and modern technologies” (ICOMOS 1996, Planning for Recording, Article 2(a)). In light of present-day use of digital databases and GIS (see following section), available data existing in physical form should be digitised and collated into a data management system – a database. This physical data may derive from different sources such as paper records or publications, modern and/or historical maps and photographs.

The next section of the ICOMOS document relates to the contents of the created inventory – *what* should be recorded (ICOMOS 1996, Content of Record). It recommends that each record would include: a unique identifier (such as index or reference number); site name; indication of the exact location of the site; reference to the sources of information used to create the record; a detailed description of the site, including qualitative and quantitative data as well as its values (significance); management information (e.g. conservation measures previously taken at the site); assessment of the site’s condition and threats; and description of the site’s context (setting). With regards to an inventory’s content, an important issue not dealt with by the ICOMOS document is quality control. Records should include an indication of their level of reliability and accuracy. The methodology of documentation should be carefully described, as well as limitations of inventory creation (Letellier 2011, 7). In addition, validation of the records and their sources should be made available (UNESCO 2008, 150).

The last section of the ICOMOS document considers several aspects of data management, especially issues of sustainability, accessibility and standardisation (ICOMOS 1996, Management, Dissemination and Sharing of Records). According to these guidelines, data collected to create the final inventory should be preserved in a safe location<sup>6</sup> and adequately backed-up; records should be accessible to the authorities, professionals and the general public; and record creators should facilitate data retrieval and exchange as much as possible, by adhering to a set of standards when formatting the records. Since data collection, management and dissemination are done digitally nowadays, issues of sustainability, accessibility and standardisation need to be tackled from the technological perspective (as also referred to in Article 6 of this section). Technical aspects of data preservation, accessibility and sharing, highly significant while creating and maintaining a

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<sup>6</sup> This aspect of data management was already mentioned in Planning for Recording, Article 2(d).

cultural heritage database, are not examined in detail in this dissertation; however, they are worth a brief mention here.

The recent literature on policies and strategies for digital data preservation, data sharing and integration, standardisation and accessibility in general (Deegan and Tanner 2006; Harvey 2010; Giaretta 2011) and for archaeology and cultural heritage in particular (Council of Europe 1999; UNESCO 2003a; Richards 2004; Kintigh 2006; Derclaye 2010; Lu and Pan 2010) keeps growing rapidly. It is only logical that creators of digital databases would want to enable their users to access, use and share data, both in the present and future. One key aspect of granting access to data is licensing it through an open license, which means permission is granted to access and reuse data, with few or no restrictions. The creators of heritage inventories may decide to make their data freely available under open copyright licenses such as Creative Commons (used by Open Context; Kansa *et al.* 2010, 319-321), Open Data Commons (Open Data Commons 2013) or Common Access Agreement (used by the Archaeological Data Service; Richards 2004). These types of licenses were developed in order to protect the legal rights of inventory creators and data contributors. Some restrictions may be imposed on data users, such as not being permitted to combine their data with the licensed data (as reflected by a CC-BY license) or use heritage data for commercial purposes (CC-BY-NC license); however, users would normally be able to freely and legally share, distribute, and build upon data for other purposes such as research and education (and in the case of a CC0 license, they can also modify data or use it for commercial purposes), as long as they acknowledge the original data providers.

Other aspects of accessibility to data were previously referred to, but from a more theoretical perspective of power relations and control over knowledge (see Section 3.3.5). The debate over the benefits and drawbacks of different levels of accessibility to archaeological data, as previously discussed, is an important one, and will be returned to in the following chapters. However, the technological practicalities of providing or denying access on a digital data management platform will remain outside the scope of this research.

With regards to the retrieval and sharing of digital data, it is advisable to promote the standardisation of data by use of a common terminology – a thesaurus – that would facilitate the search of sites in a database, as well as data exchange. In order to ensure that data entry is consistent (within the same database or in different ones) a set of standards should be applied in inventory creation and management (Baines and Brophy 2005). In

the United Kingdom, for example, heritage institutions employ standardisation strategies aimed at facilitating data retrieval and exchange; these are the Monument Inventory Data Standard (MIDAS; Lee 2000) and the National Monuments Record Thesauri (English Heritage 1999). Another form of standards are termed Semantic Web standards; these use common pre-defined ontology to describe cultural heritage, for example CIDOC-Conceptual Reference Model (Binding *et al.* 2008; CIDOC-CRM 2013). Employing data standards maximises data exchange and promotes interoperability – the “ability of content, software, networks or systems to work together through the use of agreed standards and specifications” (Fielding *et al.* 2008, 553). This requires the assignment of ‘metadata’ tags to archaeological data which provide background information about the data (Kansa *et al.* 2010, 308). This is done using standardised data models such as Extensible Mark-up Language (XML) or Archaeological Markup Language (ArchaeoML), which can represent any form of archaeological data using a tagging scheme (Schloen 2001).

Finally, when a digital database is up and running, its creators should ensure the longevity of the data by enabling its continued availability. Thus, in order to guarantee data sustainability, a plan for its digital preservation – in addition to its physical preservation – is required. Fortunately, data can be safely stored and backed-up in digital archives or online repositories. International repositories include the already mentioned UK Archaeology Data Service (ADS 2013) and Open Context (Open Context 2013), as well as Figshare (Figshare 2013) and the Digital Archaeological Record (tDAR 2013). These allow the storage of digital data such as databases, documents, images, GIS files and other types of files, and by that ensure a long-term preservation of stored data and facilitate access to it. Other scholars or professionals can then discover, share and reuse this data. Other types of online repositories operate on a national scale (e.g. the Data Archiving and Networked Services, storing Dutch datasets and other types of documents; see DANS 2013) or academic scale (such as UCL Discovery, see UCL Discovery 2013). It is thus important to look for the right environment for data preservation and be aware of sustainable technology and tools, as well as digital curation services.

Following the establishment of these recording guidelines by ICOMOS in 1996, there have been continuing efforts and initiatives dealing with different aspects of the creation and use of databases for cultural heritage management. These take the form of academic or professional conferences, international workshops and seminars, and initiatives of heritage organisations to devise improved documentation policies and strategies. As

worldwide examples of inventories implementing recording strategies become abundant, more can be learnt from these experiences. I will give a few examples of such initiatives, which resulted in enhanced recording and data management guidelines and recommendations.

One example of a professional workshop is that organised by the Getty Conservation Institute (GCI) in 2002, resulting in a joint project between the GCI, ICOMOS and the International Committee for Documentation of Cultural Heritage (CIPA): the Recording, Documentation, and Information Management (RecoRDIM) Initiative. This project produced an important publication by Letellier (2011), which provided some guiding principles with respect to recording and data management for conservation purposes. Numerous other documents were dedicated to the conservation aspect of cultural heritage (e.g. Patias and Santana 2011). Two other international initiatives took place in 2008: the first was the *Europae Archaeologiae Consilium* (EAC) symposium entitled “Listing archaeological sites, protecting historical landscape”, dealing with the role of site inventories in the protection and management of archaeological sites throughout Europe (Schut 2009). The main aim of this symposium was to discuss the latest developments in approaches and implementation of cultural heritage inventories. This symposium was followed by the UNESCO and EuroMed Heritage workshop about inventories in Mediterranean and Middle Eastern countries, organised in collaboration with the Council of Europe, ICCROM, ICOM, and ICOMOS. The aim of this workshop was to discuss the necessity of updated methodologies for data collection and management, in light of the advancement of new technologies for documentation, the creation and management of databases, and new means of communication. This workshop produced a publication of the proceedings, which includes practical recommendations in relation to inventories (UNESCO 2008). The Council of Europe followed by its own publication entitled “Guidance on inventory and documentation of the cultural heritage”, discussing a wide variety of aspects of heritage inventories (Council of Europe 2009).

Other relevant papers were recently presented in an academic conference entitled ‘SMARTdoc: Heritage Recording and Information Management in the Digital Age’ taken place in November 2010. This international conference focused on advanced digital methods for cultural heritage documentation. Palumbo’s paper, for example, explored the ways in which numerous countries chose to approach the documentation aspect of heritage management, and how technologies such as GIS were implemented in processes of heritage management (Palumbo 2012). Local initiatives that formulate guidelines for



heritage recording have also been taking place. In the United Kingdom, for example, strategies for data collection, standards and maintenance have been devised by English Heritage and the Association of Local Government Archaeological Officers UK (Ferne and Gilman 2000; ALGAO 2001; Chitty 2002; English Heritage and ALGAO 2002; Newman 2002; SMRRA 2004; English Heritage 2006).

Another universal trend relating to the creation and management of heritage inventories, already mentioned in this section, is the use of Geographic Information Systems for data visualisation, retrieval and analysis. Nowadays, a database of cultural heritage places (such as archaeological sites, historical monuments or traditional buildings) is often accompanied by a GIS. The use of GIS has become indispensable to heritage professionals, researchers, as well as the general public. The next section introduces the topic of GIS and its different uses for cultural heritage management.

### 5.3 GEOGRAPHIC INFORMATION SYSTEMS AND CULTURAL HERITAGE MANAGEMENT

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The application of Geographic Information Systems to archaeology and cultural heritage management is a natural one, since archaeological sites and monuments are located in a geographical space. The well-established relationship between GIS and archaeology began in the 1980s, first in North America (Kohler and Parker 1986), very soon to be spreading to other countries such as the United Kingdom (Harris 1986). The ability of GIS to complement archaeological and other heritage databases with a spatial component made it a popular tool that has had a growing impact on archaeological research and heritage data management (Allen *et al.* 1990; Lock and Stančić 1995; Wheatley 1995; Box 1999; Sanjuan and Wheatley 1999; Wheatley and Gillings 2002; Chapman 2006; Conolly and Lake 2006).

The theoretical implications of GIS and its use were previously discussed (Section 3.3.4) and the aim of this section is, in contrast, to provide a brief overview of the reasons for GIS use in the context of cultural heritage management, and the ways it is used in such contexts. It will start by explaining why GIS was adopted by the archaeological discipline and by heritage practitioners, and what advantages it conveys. Then the different tasks which a GIS can perform will be examined, as well as the ways in which GIS can be

integrated within different heritage management processes.

Prior to the introduction of GIS, the spatial aspect of archaeological inventorial data was recorded on paper-based maps. These were used in conjunction with inventories based on paper card-index or computerised inventories (which included site descriptions, location, etc), as well as other archival material such as aerial photography (Sanjuan and Wheatley 1999, 204). These paper-oriented methods of managing archaeological data had many limitations (Harris and Lock 1990). To start with, archaeological site records were lacking their spatial component, despite the latter being crucial for this type of data. Spatial information was split between paper maps and plans, aerial and satellite imagery. Maps were difficult to update, archaeological information in different spatial units was hard to integrate, and at times the scales of available maps were not very useful. In addition, integrating archaeological data with environmental data, and performing spatial analyses, were rather challenging. GIS offered a much more efficient approach to the management of archaeological and heritage data, overcoming these limitations and significantly facilitating the understanding of such data.

The migration of an ordinary aspatial archaeological database into a GIS environment has therefore numerous benefits. Archaeological sites can be viewed and analysed in relation to their geographical surroundings such as topography, water-courses and elevation; modern settings such as settlements and roads; or other archaeological sites or features in the landscape. Different elements represented by spatial layers in a GIS can be turned on or off, maps representing spatial relationship of special interest can be generated where necessary and data can be flexibly added, removed, modified, queried, retrieved and presented, in 2D or 3D. In addition, a GIS can be updated in real-time, enabling data-entry in the field (Conolly and Lake 2006, 16-17). The basic tasks that GIS perform could be broken down into five groups: data acquisition, spatial data management, database management, data visualisation and spatial analysis (*ibid.*, 11-12). The kinds of spatial data that could be integrated within a GIS include tabular data (from fieldwork, digitised records, etc), different types of maps, aerial photography and satellite imagery, environmental data and more. This data can also be linked to non-spatial datasets. A GIS is typically also a very powerful visualisation tool that enables different ways of viewing data (e.g. Fig. 5.2), creating maps and publishing interactive maps on the Internet. It is also a robust analytical tool, enabling the modelling of landscape processes (such as hydrology or erosion), of visibility (viewsheds) and of movement (cost surfaces).

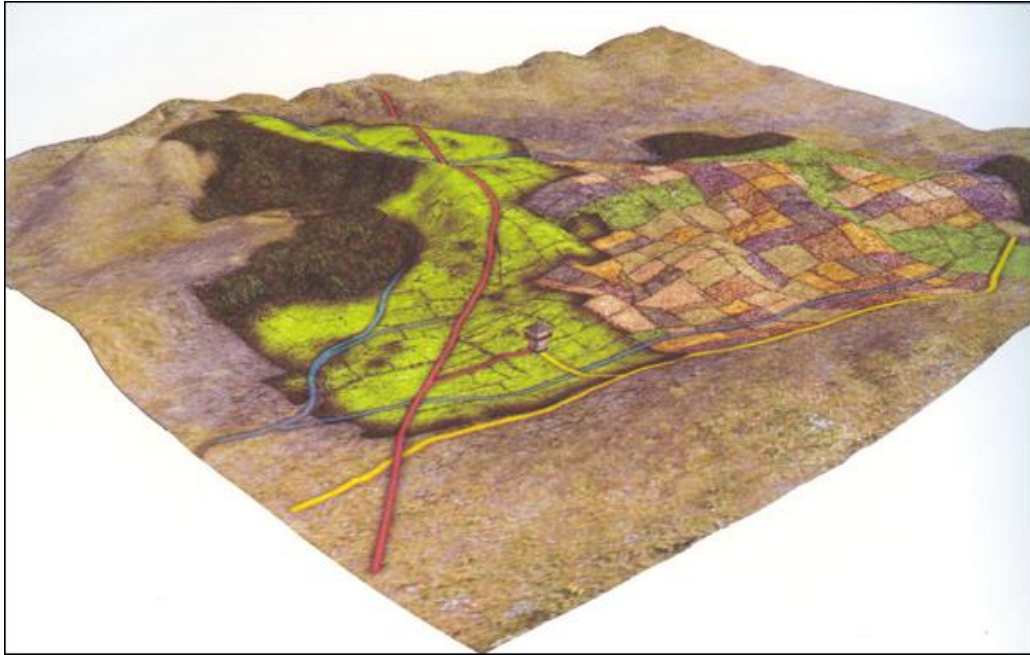


Fig. 5.2: An example of the visualisation capabilities of GIS: The Roman-period landscape of Dinnington (Somerset), presented using a colourful texture draped over a DEM (Digital Elevation Model); after Chapman 2006, pl. 24.

Being able to perform all of these tasks, GIS can be of use in different stages of cultural heritage management processes. It can assist in documentation and data collection, data organisation and evaluation, devising strategies and priorities for heritage management, monitoring change and interventions, dissemination of data, and more (Box 1999, 2-4). Examining the relationships between different heritage management processes and heritage information, as presented in Fig. 5.2 above, it is apparent that GIS can be a useful tool in any of these phases.

Chapman (2006, 24-25) categorises heritage management processes into three major themes to which GIS can be applied: recording, protection and management. The first theme, *recording*, includes the collection, classification and storage of data. The second theme, *protection*, includes operations such as predictive modelling and assessment of sites' preservation. Predictive modelling (e.g. Westcott and Brandon 2000; Kamermans *et al.* 2009) allows calculated estimations of the probability of archaeological sites being presented as certain locations, by correlating patterns of known sites and their relation to environmental factors in the landscape. This is especially useful for landscapes which have not been covered by archaeological surveys or which are otherwise poorly documented. The results of predictive modelling could thus help directing fieldwork in order to protect sites prior to development or construction works. Another GIS aspect of protection is

monitoring change in archaeological sites or landscape by assessing their state of preservation or the scale and speed of erosion processes (Box 1999, 4-6). The third and last theme, *management*, refers to different decision-making aspects relating to heritage resources (such as financial, academic, social or political considerations), in which GIS can be of great assistance when preparing management strategies.

GIS data structures can be divided into two types: vector and raster. Vector data, created by points, lines or polygons, represents the location of elements in a geographical space by one of more sets of coordinates. In case of polygons, this data also represents the shape and area of an element (e.g. an archaeological site) in the context of its surroundings. The second data type, raster, consists of a grid of cells (pixels); each of these cells has a relative location value as well as an attribute such as colour (for maps or photos) or elevation (for terrain models; Conolly and Lake 2006, 24-29). A GIS used for heritage management would usually incorporate both types of data structures. A GIS used for managing archaeological landscapes normally combines maps, satellite images and/or aerial photography, environmental, demographic or administrative data, with one or more datasets. Modern or historical maps could be included as vector layers, where the boundaries of regions or countries are represented by lines or as raster images, where digitised maps of the relevant region are added to a GIS and then georeferenced (i.e. assigned a coordinate system). Spatial layers representing various environmental factors are frequently added, such as a Digital Terrain or Digital Elevation Model (DTM or DEM, the subtle distinctions between which are not crucial here), water-courses, soil types, elevation, etc. Other layers could be of demographic or administrative nature, for example settlements, roads, districts, heritage zones, etc. All these types of spatial data are commonly complemented with aerial photography and/or satellite imagery, as raster images. The online GIS of the county of Essex in the UK, for example, includes point data of archaeological features such as listed buildings, find spots, monuments and maritime features, as well as line and polygon layers which include the council's boundaries, parishes (within the council) and conservation areas (Essex County Council 2013).

These spatial components are often combined with tabular data which includes information on the attributes of heritage sites. Sites' location would be determined by one of more sets of coordinates and represented by points (usually), lines or polygons. Any other attributes relating to those sites are determined by the database creators and their needs, e.g. site name, components, periods, etc. Some factors influencing the accuracy of site coordinates should be taken into consideration here. In case of data deriving from field

surveys (e.g. using Global Positioning Systems), levels of accessibility to sites as well as scales of visibility of archaeological remains (affected by various factors) may vary greatly. In case of locational data deriving from archived records, coordinates' precision may vary as well, especially due to the lack of technological equipment in older surveys.

Heritage GI systems are traditionally used by professionals (e.g. heritage practitioners, archaeologists) on their personal computers; however, there is a growing trend to use web-mapping (or web GIS) and adopt earth viewers such as Google Earth or Google Map (Elliott and Gillies 2009, esp. paras. 19-22; Dunn 2010). These and other web platforms can deliver GIS functions such as map visualisation and querying, collection and/or dissemination of geospatial data, and simple geospatial analysis (Fu and Sun 2011, 16-18). The migration of inventories and other spatial data to interactive maps on the web, which has been steadily increasing, allowing for a much wider exposure of heritage geodata to professional stakeholders and especially to the general public. Examples for such online maps are abundant, but for the immediate surroundings of the West Bank there are websites of online archaeological/heritage inventories integrated into Google Maps in Israel (IAA Surveys 2013) and in Jordan (MEGA-J 2010; see discussion in Section 10.3.4).

A final issue relating to GIS in the context of cultural heritage management is the standardisation of spatial data exchange. This topic remains outside the scope of this research, but will be mentioned here in passing as there is growing acknowledgement of the need to devise and implement policies and guidelines for GIS data integration, exchange and accessibility. The pressing need to address these issues led to the creation of the Open Geographic Consortium (OGC) in 1994, an organisation which since then published sets of guidelines addressing the standardisation of spatial data retrieval, storage and exchange (Bell and Bevan 2004, 20). In spite of their importance, in the United Kingdom, for example, many heritage organisations are still not following formal guidelines for GIS data sharing (*ibid.*, 28).

Both this section and the previous one discussed different aspects of documentation, heritage inventories and the use of GIS in general. The next section will examine these aspects in relation to several West Bank inventories. The following description of the inventorial reality in the West Bank aims to answer the following questions: How is cultural heritage information documented and managed in the West Bank? Who creates and maintains archaeological databases? How are databases being constructed and what kinds of information do they include? How accessible is data? And is GIS being used for

cultural heritage management?

#### 5.4 ARCHAEOLOGICAL DATABASES IN THE WEST BANK

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This section provides an overview of the main archaeological databases available for the West Bank. Databases in this region can be divided into three levels of coverage: trans-national, national or local. Trans-national databases cover a large area which includes the West Bank; national databases are those that cover the entire area of the West Bank; and local databases focus on certain regions or specific areas within the West Bank. This division reflects not only the geographical scope covered by databases, but also, to some extent, reflects different requirements for each archaeological database, different users, and other aspects. Databases covering the West Bank were created by Israeli, Palestinian or international institutions, which can be governmental organisations, NGOs or academic institutions.

Four databases were chosen to be studied more closely in this dissertation and receive a more detailed analysis. These are the four main national-level databases, two of which were created by Palestinians, while the other two are Israeli. These databases are the official DACH database, the inventory of traditional and historical buildings created by the NGO Riwaq, the official SOA database, and the academic West Bank and East Jerusalem Archaeological Database.

The next four sections include a detailed examination of these four main national-level databases (Sections 5.4.1 to 5.4.4) followed by an overview of other West Bank databases (Section 5.4.5). Due to varying degrees of access to information on each of the four main databases, some examinations will inevitably be more detailed than others. The main constraints hindering the comprehensibility of the following sections were lack of access to entire datasets, lack of methodological notes, and occasional failure to receive explanations or clarifications on acquired data. However, it was possible to collect sufficient data in order to introduce the different databases and provide a relatively detailed account of them. The following descriptions of the four main national-level databases cover issues such as databases' creators, goals and background; sources of information and methodology; contents and structure; accessibility; and any available

information on the use of GIS data. These examinations will form a factual basis for more elaborate analysis and interpretation of these inventories, covered in Chapter 6.

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#### 5.4.1 DACH DATABASE

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The Palestinian Department of Antiquities and Cultural Heritage (DACH; see Section 4.3.1.2) is the formal governmental institution responsible for Areas A and B in the West Bank. Following its establishment, one of DACH's main objectives was the creation of a national register of archaeological sites. An effort to create an inventory and GIS of cultural resources (archaeological and historical sites, vernacular architecture) was attempted in 1999, when a project funded by the World Bank included a survey of Areas A and B (PECDAR 1999; UNESCO 2008, 87). The institution that was in charge of this project was the Palestinian Economic Council for Development and Reconstruction (PECDAR). The project's methodology was to review previous surveys and visit archaeological sites in the West Bank and Gaza Strip. In spite of failing to achieve its targets, the project did lead to a few outcomes: 2,800 sites were visited; Palestinian archaeologists were trained with survey techniques; and GIS was adopted as a platform for cultural heritage management (M. Jaradat, pers. comm.). Thus, GIS has been used as a tool for resource mapping right from the outset of formal Palestinian archaeological and heritage practices. This first official Palestinian endeavour to create a national inventory established the basis for the current DACH database.<sup>7</sup>

In 2005, DACH initiated a database project in cooperation with UNESCO and the Negotiation Support Unit (NSU). The aim was to create a national inventory of archaeological sites, linked to a GIS platform, with a geographic scope covering the 1967 borders of the West Bank (UNESCO 2008, 83-88). The main objective was to create a holistic database covering different aspects of both tangible and intangible heritage, including archaeological and historic sites and monuments, artifacts and ethnographic accounts. The identification and listing of these cultural resources will ultimately result in a tool that would inform a national heritage management strategy for protection, preservation, and tourism development, as well as facilitate scientific research related to excavations or surveys (M. Jaradat, pers. comm.).

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<sup>7</sup> I tried learning whether there were methodological notes for the PECDAR project, but could not obtain that data.

The database, currently under construction, plans to include data from different resources such as travel accounts, previous archaeological surveys and excavations, and other inventories (UNESCO 2008, 84-85). Historical sources will include lists of sites provided in historical and geographical records starting from the 15<sup>th</sup> century BC, pilgrims' accounts, Ottoman registries, descriptions of 19<sup>th</sup> century explorers, the Survey of Western Palestine conducted in 1872-1878 (Conder and Kitchener 1881-1883), and British Mandate survey and maps (Government of Palestine 1944<sup>8</sup>), which were the official gazetteer of archaeological sites and historical buildings in Mandatory Palestine. Other sources of information will include the major Israeli surveys since 1967: the Emergency Survey (Kochavi 1972a) and the main regional surveys (Finkelstein and Magen 1993; Finkelstein and Lederman 1997a; Zertal and Mirkam 2000; Zertal 2004, 2005, 2008). In addition, the DACH database will incorporate the PECDAR project's results (discussed above), other inventories prepared by NGOs and the Negotiation Support Unit (NSU), and a list of sacred shrines related to prophets and saints of the three faiths (Arraf 1993).

The sources of information digitised for DACH database thus far are the Survey of Western Palestine and British Mandate surveys, totalling approximately 10,000 archaeological sites and features, of which 1,994 are classified as Main Archaeological Sites (e.g. khirbeh, tell, etc), and 8,000 Archaeological Features (e.g. cave, church, maqam, monastery, tomb, etc). Of the total number of sites, 428 have been excavated to some extent. At the current stage of database construction, the focus is on fixing inaccurate site coordinates using aerial photography and GPS devices (M. Jaradat, pers. comm.).

For the purposes of the research discussed here and in later chapters, two parts of the entire database were made available from DACH, covering the two case study areas, Gush Etzion (Section 7.2.1) and the Jericho Oasis (Section 8.2.1). Table 5.1 provides a breakdown of DACH's database structure as portrayed by these two portions of the wider dataset, with examples of possible values of database fields and some comments or explanations.

	Database Field	Value	Comments
1	Site ID	e.g. 425, 787	
2	Site Name	e.g. Qanat Musa	
3	Type	e.g. Spring, Aqueduct, Building	
4	District	e.g. Jericho, Nablus,	

<sup>8</sup> Supplementing previous publications, see Government of Palestine 1929 and 1933.



		Ramallah	
5	Map Name	e.g. Wadi el Makook, Wadi el Qilt, El Mughaiyir	Name of the 10x10 km map within which the site is located
6	Map Number	e.g. 20-14, 20-13, 19-14	Number of the 10x10 km map within which the site is located, represented by a set of the two first digits of the X and Y coordinates (Palestine Grid / Old Israel Grid)
7	Israeli MA	e.g. 83/14, 109/6, 83/13	Map number according to Israeli survey numbering
8	Auto ID	e.g. 425, 787	
9	Excavation	Excavated/Null	Indication whether the site was excavated
10	Class	Feature/Main Site	Indication whether the site is a major site or a feature
11	Apartheid	?/Null	Indication whether the site is damaged or is with proximity to the separation wall; in the received database segments the value was always 'Null'
12	Database	Entry/Null	Unclear field
13	Geo Area	?/Null	Indicates West Bank or Gaza Strip; for the received data the value was always 'Null'
14	Tourism	Yes/Null	Probably indicates whether the site is open, accessible or organised for visitors
15	X Coordinate	e.g. 200515.59614	X Coordinate in Palestine Grid / Old Israel Grid
16	Y Coordinate	e.g. 140654.80769	Y Coordinate in Palestine Grid / Old Israel Grid
17	Plan	Yes/Null	Probably whether there is, or will be, a management plan for the site

Table 5.1: DACH database current structure and possible values.

As mentioned above, the DACH database is still under construction, and is scheduled to include many more sources of information as well as more data on each site. Table 5.2 presents the planned structure of the future DACH database, in addition to comments as provided by DACH (M. Jaradat, pers. comm.).

	Database Field	Comments
1	<b>Geographical Information</b>	
	Site ID	Serial number
	Site Number	According to Palestinian Grid
	Site Name	Local name
	Other Name	Other local name
	Site Name Identification	The site name in the sources + Space to fill in sources
	Type of Site	Add table to database
	District	Palestinian Districts in the West Bank including East Jerusalem and Gaza Strip
	Locality	Add table to database (Palestinians villages and towns in the West Bank and Gaza Strip)
	British Survey	Sheet name, Sheet No.
	Israeli Survey	Sheet name, Sheet No.

	Map Reference	Maps/GPS, East (X), North (Y)
	UTM	X, Y
	Sea Level	Contours line (5 m)
	Site Size	By dunam
	Parcel No., Plot No., Source	
	Site Map	Connected with GIS
<b>2</b>	<b>Information Sources</b>	Published/Unpublished; Historical Resources; Travel Accounts; Archaeological Surveys; Archaeological Excavations; Oral Data
<b>3</b>	<b>Ownership</b>	
	Owner Name	
	Type of Ownership	Miri, Church Waqf, Islamic Waqf, Governmental, Municipality, Family Waqf, Descendants Waqf, Private; Other
<b>4</b>	<b>Description</b>	Description of site components according to information sources
<b>5</b>	<b>Site Landscape</b>	
<b>5.1</b>	<i>Site Topography</i>	High Land; Plateau; Valley; Rift (Ghor); Mound; Slope; Coastal Plain; Plain; Shore
<b>5.2</b>	<i>Geological Information</i>	
	Rocks	Rock types: Igneous Rocks, Metamorphic Rocks, Sedimentary Rocks (Mizi, Mizi Yahudi, Mizi Hilu, Malki, Ka'kuli, Hitan)
	Soil	Type: Randizina, Yellow, Brown, Black, White
<b>5.3</b>	<i>Surroundings</i>	
	Land Use	Natural, Arid, Cultivated, Woods, Residential, Commercial, Industrial, Quarry, Military Zone, Other
<b>5.4</b>	<i>Water Resources</i>	Spring; Cistern; Stream; Seasonal Stream; Artesian Well; Reservoir; Pool; Aqueduct; Canal; Spring (Ain)
<b>6</b>	<b>Site Condition</b>	
	Good (1)	9
	Medium (2)	7-8
	Bad (3)	5-6, Partially Destroyed, Completely Destroyed
<b>6.1</b>	<i>Level of Destruction</i>	
	Severity	High, Middle, Few, Limited
	Date	
	Description	
	Source	
<b>6.2</b>	<i>Cause of Destruction</i>	Erosion; Agricultural Activities; New Additions; Re-Use; Illegal Excavations; Dump; Natural Factors; Urban Expansion Areas; Infrastructure Works; Looting; Bypass Road; Israeli Military Activities; Israeli Settlements; Other
<b>7</b>	<b>Site Investigations (Excavations)</b>	
	Date of Excavations	
	Name of Institution	List of institutions in Palestine
	Name of Project	
	Funder	
	Name of Directors	
	Name of Excavators	
	Type of Excavation	Trial, Salvage, Scientific, Clearance
	Reporting	Preliminary or Final, Published/Unpublished
	Publishing	News, Preliminary or Final
	Sources	
<b>8</b>	<b>State of Conservation</b>	
	Excavated	Before/After
	Present Situation	
	Interventions	Primary, Restoration projects: Previous/ Current, Institution Name,

		Date
<b>9</b>	<b>Site Management</b>	Managed/Not Managed
<b>10</b>	<b>Artifacts</b>	Connection with Artifacts database by site no.
<b>11</b>	<b>Dating</b>	Choose from table (Chronology in Palestine)
<b>12</b>	<b>Site Requirement</b>	Cleaning; Survey; Excavations; Protection; Conservation; Planning; Restoration
<b>13</b>	<b>Illustrations</b>	Plan; Aerial Photos; Photographs; Map; Sections
<b>14</b>	<b>Assessment of Site Significance</b>	Archaeological; Historical; Cultural; Architectural; Religious; Political; Economic; Symbolic; Scientific; Synthetic
<b>15</b>	<b>Bibliography</b>	List of sources that mentioned the site

Table 5.2: Planned structure for the DACH database.

In terms of accessibility, this database can be accessed only by employees of DACH, but is not available online, with DACH providing information from the database upon request. In addition, the data is currently not licensed. However, there are future plans to store data in an online repository and make it more accessible (M. Jaradat, pers. comm.; this issue will be further discussed in Section 6.3.1).

DACH's database was incorporated onto a GIS platform; its spatial layers include:

- Modern Settings: West Bank and Gaza Strip maps, areas of jurisdiction (A, B, C), road system, Palestinian cities and villages, Israeli settlements, districts, land use
- Historical Data: cultural routes (tracing the footsteps of prophets and holy figures from the three monotheistic religions in Palestine; see MoTA-DACH 2005, 30-32), traditional buildings
- Geographical Features: Water resources

These spatial layers complement data deriving from DACH database, creating layers of archaeological sites – as point data and also polygons digitised from British maps. In addition, DACH has recently started the process of demarcating the boundaries of archaeological sites, in order to include those on municipalities' management plans (M. Jaradat, pers. comm.). These polygon delineations are created especially for protected sites, such as Tell es-Sultan, Hisham's Palace and Tell Balata (N. Al-Ju'beh, pers. comm.). These areas could be viewed as designated heritage assets that should be taken into consideration when preparing management master plans (see Section 4.3.1).

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## 5.4.2 RIWAQ REGISTRY OF HISTORIC BUILDINGS

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Soon after its establishment, the Palestinian NGO Riwaq (see Section 4.3.2) began the construction of a comprehensive inventory of historic buildings and vernacular architecture in the West Bank and Gaza Strip. This project, initiated in 1994, lasted ten years and was published in three volumes as the Registry of Historic Buildings in Palestine (Riwaq 2007). In addition, the registry is available as a searchable database online (Riwaq 2011). The recording of historic buildings, most of which are dated between 18<sup>th</sup> to mid-20<sup>th</sup> century, was taken as a step towards to the preservation of traditional built heritage, not protected by either Palestinian or Israeli antiquities laws. As previously mentioned, despite its being an NGO, Riwaq is the authority responsible for this aspect of cultural preservation. Thus, inventory users vary from governmental organisations and NGOs to academics and the general public.

The basic methodology for the creation of this inventory was the collection of data through fieldwork, by visiting each historic building with the aid of a few different maps. In the course of these visits, pre-structured forms were completed and photos were taken for each building. Data collected in the field was then organised and managed via a single database. The final result is an inventory of almost 50,000 buildings in the West Bank (50,320 records for both the West Bank and Gaza Strip) including East Jerusalem, in addition to more than 400 digitised maps and 45,000 photographs of historic buildings. It should be mentioned that not all historic buildings were recorded – less than 10% of the total buildings could not be recorded due to the political situation (Riwaq 2011, About Registry, General Intro, What Is Left to be Done); in addition, one should keep in mind the transient nature of domestic architecture: as many of these building are private properties used for residence, there are occasional additions, demolitions and reconstructions taken place. The Riwaq database is currently available in three formats: the actual registry (an excerpt of which was not available for the purposes of this research), the online database, and GIS layers. Information available for each of the three database variations differs, to some extent, in scope and details.

Riwaq's database is the most comprehensive source of data for historic buildings in Palestine. Its final structure was gradually developed during different phases of fieldwork, in which pre-designed questionnaires were used for data collection. The latest version of the data collection questionnaire, developed in 1999, constituted the basis structure for

the final registry. It covered many aspects of the recorded buildings, including their location, name, ownership, type of ownership, date and phases of construction, the founder's name and building materials, the building's intended and current uses, extent of use, floors, annexes, annexes building materials, structural and physical condition, services (i.e. utilities), construction, open yard, façade, roof, ceiling, floors, decorations, additional remarks on the architectural description, internal and surrounding environment, the importance of the building, additional remarks, and illustrative drawings (Riwaq 2011, About Registry, Technical Intro, Questionnaires Used).

The online version of Riwaq's registry is less comprehensive, but provides very flexible search options. The first one is to search either by a building or a city (using a drop down menu), with an additional field for free text search; another option is to search by district. Each record of the search results includes the database fields presented in Table 5.3, which also provides an example of a record.

	Database Field	Value	Comments
1	Serial Number	0-32	
2	Name of Monument	The house of Mahmoud Nayef Barham	Link to its own page, which includes the same data but allows viewers to leave comments
3	Current Use	Residence	
4	Usage	Holistic	
5	Construction Status	Good	
6	Number of Floors	Floor	
7	Type of Construction	Single	
8	Roof	Plane	
9	Surface	Plane	
10	Flooring	Concrete	

Table 5.3: An example of a record from Riwaq's online database (own translation).

Another way to browse through the online database is via a map of the West Bank and Gaza Strip, divided into districts. Clicking on each district leads to a detailed map of villages and towns. Each settlement on the map links to its own page, which includes information on that place as well as a list of recorded buildings (Fig. 5.3). The records also link to a separate webpage per building, with more information and usually a photograph as well (Fig. 5.4). Users can insert comments on any given settlement page or building page. In addition to browsing the data using maps, one can search the database using

keywords (free text) or generate a report of search results according to chosen criteria of interest.

الصفحة الرئيسية > المحافظة > رام الله والبيرة

اليوم الصور | تقرير نسب المباني | تقرير تفصيلي للمباني

### مدينة البيرة



تقع مدينة البيرة على بعد 16 كم شمال مدينة القدس، وقد ذكر موقعها ياقوت الحموي على أنها واقعة بين بيت المقدس و نابلس. ترتفع البيرة حوالي 870 م فوق سطح البحر، وتبلغ مساحتها الكلية 22045 دونماً، ومساحة المنطقة المبنية فيها 8500 دونم، وتحيط بأراضيها أراضي قرى صرداء، ودورا القرح، وبيتين، وبرقة، وكفر عقب، ومدينة رام الله، وعين يبرود.

تصارت الروايات حول تسمية المدينة، فهناك من يرى أنها تحريف للمدينة الكنعانية بثروت التي تحتي أبار، أو "بيرتا"، التي تحتي القلعة أو الحصن، وفي الفترة الرومانية عرفت باسم بيرا " Berea " وفي الفترة الصليبية سميت المحمرة " Mahumeria "، وبعد أن ازدهرت سميت المحمرة الكبرى " Mahumeria Magna " وكلمة محمرة تحتي منطقة التعبد أو المنير، وفي الفترة الأيوبية ذكرها المؤرخون باسم البيرة.

يبلغ عدد سكان البيرة 38592 نسمة حسب تقديرات الجهاز المركزي للإحصاء الفلسطيني للعام 2004 ويوجد في المدينة العديد من المعالم الأثرية والدينية، منها الكنيسة الصليبية التي أنشئت في القرن الثاني عشر الميلادي، والخان الصليبي ومقام الشيخ مجاهد، ومقام الشيخ تسيان، ومقام الشيخ نجم، ومقام الشيخ يوسف، ومقام الشيخ سليمان، ومقام الست أو خلتا، كما تحيط بها العديد من الحدائق والتلال الأثرية، منها تل النصب، وخربة عطابا،

اسم المبنى
ابو اياد
احمد ابو حميدان
احمد حسين محمد الطويل
احمد موسى قرح
احمد وانور وابراهيم نمر محمد سالم
الحاج حسان
الحاج حسان
الحنيني
الحنيني
الركام
الشيخ ديب العوري
الشيخ عمران صالح الشورا
العبد قرح
المدرسة الهاشمية
المنسي، ابو حميدان
الوكيل رياض الصالح
ام نعيم ابو ريا

Fig. 5.3: Screenshot of a settlement page (Al-Bireh), including a map, information, and a clickable-list of traditional houses.



©Riwaqregister.org

الرقم المتسلسل	3017900420007100
الاسم	احمد حسين محمد الطويل
الاستخدام الحالي	سكن
مدى الاستخدام	مستخدم كلي
الحالة الانشائية	جيدة
عدد الطوابق	طابقان
شكل السطح	
شكل السقف	مستوي
نوع الارضيات	

Fig. 5.4: Screenshot of a record of one of the traditional houses in Al-Bireh.

The third version of Riwaq's registry is comprised by GIS layers; and an example portion of these was received upon request for the Jericho Oasis case study (see Section 8.2.1). The data included ten vector files (point data, lines and polygons), incorporating both architectural features and archaeological sites. Table 5.4 presents the structure of each architectural layer received for the Jericho region.



	Layer	Type	No. Of Records	Database Field	Value	Comments
1	Architectural Sites	Point	367	Name	e.g. beit ali amin	
				Type	house, izbeh, deir, church, hotel, park, mosque, istable, trass, yakhor, military, room	
				X Coordinate	e.g. 19381	X Coordinate in Palestine Grid / Old Israel Grid
				Y Coordinate	e.g. 14059	Y Coordinate in Palestine Grid / Old Israel Grid
				Form_N	e.g. 25-15	
				District	Jericho	
				2	Buildings	Point
Type	House, Deir, Hotel, Church, Yakhor, Military					
X Coordinate	e.g. 19415	X Coordinate in Palestine Grid / Old Israel Grid				
Y Coordinate	e.g. 14199	Y Coordinate in Palestine Grid / Old Israel Grid				
F_Num	e.g. 16-18					
District	Jericho					
ID	e.g. 413					
3	Houses	Polygon	2897	Entity	Polyline; Circle	Layer of houses in Jericho.
				Layer	House	
				Elevation	0	
				Thickness	0	
				Color	8	
				Area	Ranging from 3 to 2175 m <sup>2</sup>	
4	House Limits	Line	3739	Entity	Polyline; Line; Circle; Arc	Layer of house contours in Jericho. Note: most (though not all) contour lines of this layer are filled by the <i>Houses</i> polygons.
				Layer	House; Open	
				Elevation	0	
				Thickness	0	
				Color	Value is '7' for	

					'Open' records or '8' for 'House' records	
5	<b>Covp</b>	Polygon	3501	Area	e.g. 129.604 m <sup>2</sup>	Layer of structures in Jericho
				Perimeter	e.g. 48.531 m	
				Jerichocovp	Value ranges between 0 to 3456	
				Jericho_1	0	
				Fnum	e.g. 26-22, usually has no value	

Table 5.4: Riwaq's GIS layers representing architectural records.

Table 5.5 presents the structure of the two GIS archaeological layers received for the Jericho region.

	Layer	Type	No. Of Records	Database Field	Value	Comments
1	<b>Archaeo</b>	Point	41	Name	e.g. tal-el-mgefer	Layer of archaeological sites
				Type	tell, khirbeh, residue, church, tawahin, deir, tulul, house, tree, wadi, tunnel, bridge	
				X Coordinate	e.g. 19491	X Coordinate in Palestine Grid / Old Israel Grid
				Y Coordinate	e.g. 13869	Y Coordinate in Palestine Grid / Old Israel Grid
				Form_N	e.g. 9-2	
				District	Jericho	
				Division	s, g	
				Value	1 to 88	
2	<b>Complex Sites</b>	Polygon	25	ID	1 to 24, 36	Layer is of squares, not the real area of sites. All sites on this list are included in the <i>Archaeo</i> layer (mentioned above), and probably represent the major sites in Jericho, such as Tell es-Sultan and Qasr Hisham.

Table 5.5: Riwaq's GIS layers representing archaeological records.

In addition to the above mentioned architectural and archaeological GIS layers, Riwaq uses standard spatial layers such as detailed elevation levels, as well as hundreds of digitised



and georeferenced paper maps of the West Bank (Riwaq 2011, About Registry, Technical Intro, Maps Archive).

Riwaq's data is very accessible. As mentioned above, the actual database was published (Riwaq 2007), and the online version of the registry is free and fully accessible; however, the online version of the data is currently available only in Arabic. In addition, for the purposes of this research, Riwaq provided information from the database upon request, in the form of GIS layers which were all in English. This fast and easy process of data sharing reflects the NGOs policy to share their data with researchers; this issue will be examined in more depth in Section 6.3.1. At present, Riwaq's data is not protected by an open license, and it does not use online repositories to store and backup the registry's data. However, Riwaq will consider these issues in the future (F. Touma, pers. comm.)

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#### 5.4.3 SOA DATABASE

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As the Israeli governmental body responsible for archaeological activities in the West Bank, the Staff Officer for Archaeology in Judea and Samaria (see Section 4.3.1.1) maintains a GIS of archaeological sites and finds. Starting to operate in the West Bank immediately after its occupation, the SOA's database covers archaeological sites in all areas of jurisdiction, i.e. A, B and C. Following the implementation of the Oslo Accords when its jurisdiction was reduced to Area C, the SOA has not been collecting further data for Areas A and B (except in very few cases) for almost twenty years. According to the SOA, its database was created for "scientific purposes and public use" (Civil Administration 2011, Other Activities). In practice, however, not much information relating to this database is publically available: even general information about when it was created, how it is maintained, or what portion of SOA's physical archives have been digitised for it thus far is hard to find.

Data received from the SOA and used throughout this dissertation was in fact acquired through the NGO Peace Now, a left-wing Israeli activist organisation, having received this information from the SOA via legal petition. GIS layers received from Peace Now reflect the database used by SOA to manage archaeological sites. As this data was provided to Peace Now following legal action, it lacks methodological notes, but one relevant comment made by the SOA about this data is that: (1) there may be a deviation of about one kilometre in

the provided locations of archaeological sites, and (2) with regards to sites delineated by polygons, the border do not necessarily reflect the officially declared area of antiquities, but only “an area located in the vicinity of such or suspected as such, and the demarcation itself was made in order to draw attention, nothing more” (H. Ofran, pers. comm.; own translation).

The SOA’s reference to ‘officially declared’ antiquity zones is rather vague. These ‘formal’ areas of antiquities may refer to declarations made during the British Mandate period, with which the SOA had probably worked until the mid-1990s. Those late 19<sup>th</sup> and early 20<sup>th</sup> century British maps, despite their main purpose being to identify Bible-affiliated sites, remain one of the most comprehensive sources of archaeological data (and, as mentioned above, were also digitised by DACH as one of its first steps of database creation). It is reasonable to assume that the SOA, in its early days, used a combination of paper-based British survey maps, the Emergency Survey as well as later Israeli archaeological surveys, and paper-based inventories. Post-Oslo and with the introduction of GIS, the SOA started to create its own declarations and demarcations of boundaries of antiquity sites. Therefore, it could be that in many cases, the SOA’s polygons are in fact the declared or ‘designated’ area of antiquities (G. Solimany, pers. comm.), and they are consulted for development control and planning purposes.

In the absence of any additional methodological commentary,<sup>9</sup> it is impossible to know how the GIS layers were created or which sources were used to construct them. However, by examining the data, it is evident that a few different sources were used, while other data derived directly from fieldwork. Records were divided to layers of three types: point data (1,450 records, each corresponding loosely to an individual site), lines (ancient roads, one aqueduct and one built channel; 25 records) and polygons (348 records), with some of the latter overlapping with the point data. Textual data included in all GIS layers is in Hebrew, with the exception of one database field stating a site’s name in English.

As demonstrated in Table 5.6, which presents the structure of the point data GIS layer, data for each site includes exact location, site names and identification, ownership, indications of whether the site has a religious value, whether it was looted, excavated or

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<sup>9</sup> Considering that the SOA’s system may be similar, if not identical, to the database system used by the Israel Antiquities Authority (IAA) working in Israel proper, a few IAA personnel were contacted with the hope of receiving some information on the SOA’s database. These attempts failed, as no one had any such information.

surveyed, whether it appears in the British gazetteers, its periods of existence, whether the site is located within a military fire zone, and other data. According to SOA, their archive (unclear whether they refer to a physical or digital archive) also includes photographs, maps, historical sources and past publications for each site (Civil Administration 2011, Other Activities).

	Database Field	Value	Comments
1	FIN_SR_NO	e.g. 001313, 000586	Serial number of six digits. The numbers run from 00001 to 001439, then from 005000 to 005122 and 006000 to 006039
2	X	e.g. 186500	Coordinates in six digits, in Old Israel Grid
3	Y	e.g. 1199330	Coordinates in seven digits, in Old Israel Grid
4	PLACE_DIS	e.g. בִּיר נַבְלָא (Bir Nabala)	Site name in Hebrew
5	EN_SITE_NM	e.g. Bir Nabala	Site name in English, appears for only some of the records
6	AR_SITE_NM	e.g. דֵּיר אֵל בְּנָאָת (Deir el-Banat)	Site name in Arabic, though written in Hebrew. Appears rarely
7	IDENT	e.g. St. George Monastery	Site identification, mostly the biblical name but sometimes a Monastery name or something else
8	SITE_LOCAT	Optional values: Inside an Arab settlement; Inside a Jewish settlement; Near an Arab settlement; Near a Jewish settlement; Open site	Site location
9	SR_NO	e.g. 63/10, 97/5	Another serial number, comprised of two numbers
10	ZONE_AUTHR	Optional values: Ramallah, Hebron, Tulkarm, Jenin, Nablus, Bethlehem, Jordan	District
11	LAND_OWNER	Optional values: Arabic, Jewish, State - declared, State - listed in the land registry office, Administration?, Other	Land ownership
12	RELG_CONC	Yes/No	Religious connection
13	SITE_ROBBE	Yes/No	Site was looted
14	SITE_EXCAV	Yes/No	Site was excavated
15	DEC_1944	Yes/No	Site was included in the declaration of antiquities in 1944
16	DEC_47B	Yes/No	Unclear field; Maybe some order of the military government
17	DEC_BY_ORD	Yes/No	Unclear field; Maybe some

			order of the military government
18	CALCO_PRD, EBI_PRD, EBII_III_P, MBI_PRD, MBII_PRD, LB_PRD, IRI_PRD, IRII_IRII, PERS_PRD, HELEN, ROMAN_PRD, BYZANT_PRD, ISLAM_PRD, CRUSAD_PRD, MID_PRD, AUTHMN_PRD	*/Null	Periods of existence, from Chalcolithic to Ottoman (excluding prehistoric periods between the Paleolithic and Neolithic periods)
19	SITE_FILE	Yes/No	Site has a file
20	SITE_SURVE	Yes/No	Site was surveyed
21	BIBLIL_EX	Yes/No	Bibliography for excavations (?)
22	SITE	e.g. ביר נבלא (Bir Nabala)	Another site name, sometimes identical to PLACE_DIS
23	SITE_AMMNT	e.g. 0.5, 4.8	Unclear field; a number between 0 to 1000, sometimes has decimal values
24	NATI_SIGNF	Optional values: א, ב, כ, ל (meaning probably: A, B, Yes and No)	National Significance (The different values are probably due to the collation of different records)
25	FIRE_ZONE	Yes/No	Site is in a fire zone
26	MONIPAL	Yes/No	Unclear field; related to Palestinian Municipalities?; rarely in use
27	MONIPAL1	Yes/No	Unclear field; rarely in use
28	SR_NO_1	e.g. 63	The first number from the right included in SR_NO
29	SR_NO_2	e.g. 10	The second number from the right included in SR_NO
30	SITE_IN	*/Null (usually)	Unclear field; maybe a remnant of a list made during the various interim agreements of the mid-1990s
31	SITE_OUT	Optional values: asterix (*), 7, 8, 9, no value (usually)	Unclear field; maybe a remnant of a list made during the various interim agreements in the mid-1990s
32	SITE_IO_NM	e.g. ביר נבלא (Bir Nabala)	Another version of site name?; this field may relates to someone else's list; almost always identical to SITE
33	DD	Optional values: 1,2, 3, no value (almost always)	Unclear field
34	AREA	Optional values: A, B, C	Area of Israeli or Palestinian jurisdiction
35	BYPAS	Yes/No	Whether there's a bypass road around/to (?) this

			site
36	BYPAS_NM	e.g. Gush - Emek HaEla	Name of bypass, always null value except for one entry: Gush - Emek HaEla
37	COUNTY	Values are a number between 1 and 26, though usually no value	Unclear field
38	XNEW	0	Coordinates in New Israel Grid (this coordinate was never calculated and is always '0')
39	YNEW	e.g. 647350	Coordinates in New Israel Grid, in six digits

Table 5.6: Structure and possible values of SOA's point data.

Table 5.7 presents the structure of the GIS lines layer, which includes three fields only.

	Database Field	Value	Comments
1	FIN_SR_NO	e.g. 008003	Serial number of six digits, ranging between 008003 to 008025 (two numbers are repeated)
2	FEATURE_NA	Optional values: Ancient road, Aqueduct (one entry), built channel (one entry)	Name of the feature
3	SHAPE_LEN	e.g. 1428.83135706	Line's length in metres

Table 5.7: Structure and possible values of SOA's lines data.

The structure of the polygon layer is almost identical to the structure of the point data, with the addition of two fields: (1) FIN\_SR\_N\_1, which is identical to FIN\_SR\_NO (unclear redundancy), and (2) DISENGAGEM, an unclear field, perhaps related to 1990s interim agreements; its optional values are: 0 (almost always), 1, 2 (this field was also included in another version of the point data layer).

Getting access to this data or other parts of SOA's database is a complex matter. In its official document, the SOA states that "each institute undertaking research in the region has free access to this database and commits to contributing its results to the archive in turn, for all to use" (Civil Administration 2011, Other Activities). In reality, the SOA decides who to grant access to according to its own whims. For example, the WBEJAD project (presented in the following section) required access to data regarding excavated sites and excavations licenses. Following SOA's refusal to comply with this request, data could be acquired only via a petition to the Administrative Court in Jerusalem, on the basis of the Freedom of Information Act (The Movement for Freedom of Information 2007). Therefore,

it remains unclear which organisations or individuals can gain access to SOA's database. It is also unknown whether the SOA's data is protected under a copyright license, but it is fair to assume that it does not use an open license. In addition, data from GIS layers and other lists of excavated sites or excavation license numbers are all in Hebrew, which would make it difficult to understand by Palestinians or foreigners. These important issues of accessibility will be compared and discussed in greater detail in Section 6.3.1.

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#### 5.4.4 WBEJAD

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The West Bank and East Jerusalem Archaeological Database (WBEJAD) was initiated as part of a joint Israeli-Palestinian working group (IPAWG; see Section 1.1), under the academic umbrella of University of California Los Angeles (UCLA), University of Southern California (USC) and Tel Aviv University. The main objective was to create a unified source of information for Israeli archaeological activity in the West Bank that would then be available for negotiators, decision-makers, researchers and the public. The database includes records of all archaeological sites surveyed or excavated by Israel or in cooperation with the Israeli government, from 1967 to 2007 (Greenberg and Keinan 2007, 2009; Keinan 2010, forthcoming).

The WBEJAD is a compilation of both archaeological and administrative data, thus many different sources were used in its construction. Administrative data was received from the SOA,<sup>10</sup> the Israel Antiquities Authority (IAA; working in East Jerusalem) and several major universities in Israel. This data included a list of scheduled sites in the West Bank,<sup>11</sup> several lists of excavated sites and of excavation licenses or permits. Archaeological data was collected mainly from academic publications of surveys and excavation reports. Numerous Israeli archaeological surveys were digitised and included in this database. These are presented in fig. 5.5, which also demonstrates their level of coverage, if known; this would range from 'full coverage' (as defined by the Archaeological Survey of Israel) to 'partial coverage', in which coverage level remains unclear. The first survey to be conducted by Israelis in the West Bank was the Emergency Survey, starting five months

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<sup>10</sup> The WBEJAD does not include data that could be extracted from SOA's GIS layers (presented in the previous section), as those were acquired after its finalisation.

<sup>11</sup> This list was probably created after 1967, possibly using a combination of British Mandate data on declared antiquity sites, the results of the Emergency Survey, and data derived from the SOA's inspection activities (R. Greenberg, pers. comm.).

after the 1967 war (Kochavi 1972a), and aiming to revisit known sites previously surveyed by the British. This survey was followed by many others: topical surveys included Zertal's survey of the Manasseh Hill Country (Zertal and Mirkam 2000; Zertal 2004, 2005, 2008), the survey of southern Samaria (Finkelstein and Lederman 1997a), and Ofer's survey of Judah (Ofer 1993). Other surveys took the form of 10 km<sup>2</sup> maps, based on the Archaeological Survey of Israel system. These included the survey of the Land Of Benjamin (Finkelstein and Magen 1993), the Map of Herodium (Hirschfeld 1985), Map of Mar Saba (Patrich 1994), and other maps which cover both regions of the West Bank and Israel proper, such as the Map of Amazyza (Dagan 2006a, 2006b) and Nes Harim (Weiss *et al.* 2004). Other 10 km<sup>2</sup> maps that received only preliminary publications, were included in the database, as well as surveys dealing with specific phenomena, such as Operation Scroll, surveying caves in the northern Judean Desert (Wexler 2002). Additional archaeological information was complemented by data culled from hundreds of excavation reports, doctoral dissertations and other publications, as well as some unpublished material. This variety of data sources offers some interesting insights into trends and priorities in data collection and publication; these issues will be discussed in Section 6.2.1.

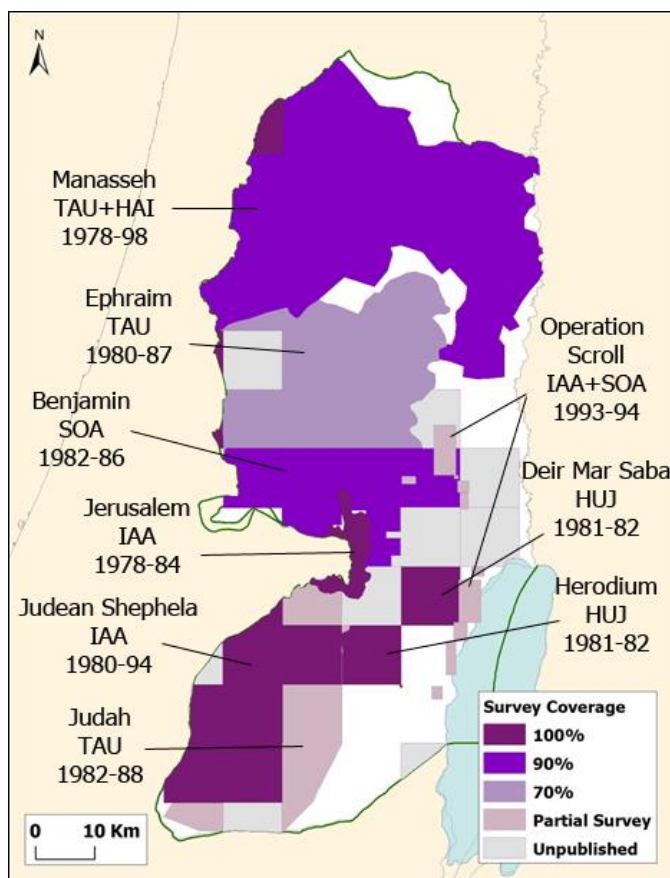


Fig. 5.5: Coverage of Israeli surveys in the West Bank, indicating level of coverage and survey institution (TAU = Tel Aviv University; HAI = Haifa University; HUI = Hebrew University; SOA = Staff Officer for Archaeology; IAA = Israel Antiquities Authority); after Greenberg and Keinan 2009, 11 fig. 5.

The WBEJAD is divided into three parts: a list of surveyed sites (6,050 records, of which 983 are in East Jerusalem), a list of excavated sites (980 records, of which 349 are in East Jerusalem) and a list of licenses issued by the SOA for excavations and surveys (1,148 records). As demonstrated in Table 5.8, presenting the structure of the list of surveyed sites, each record includes information such as exact location, site names, major components and periods of existence, and when applicable, excavation details including excavators, license numbers and bibliography.<sup>12</sup>

	Database Field	Value	Comments
1	Index	e.g. 1	Index number running from 1 to 6050
2	X	e.g. 171300	X Coordinates in six digits, in Old Israel Grid
3	Y	e.g. 216800	Y Coordinates in six digits, in Old Israel Grid
4	Site Name	e.g. Qabatiyeh	
5	Other Names	e.g. Kubutiyyeh; Qabatiya; Qabatieh	Other site names or different spellings for its main name
6	Survey Site Number	e.g. 16-20/71/1	Site number according to published survey(s)
7	Survey Ref	e.g. Zertal and Mirkam 2000, Site 151	Reference to survey publication(s)
8	Major Periods	Optional values: Pal, LP, MP, UP, EP, Nat, Keb, EKeB, Geo Keb, PPN, PPNA/B/C, PN, WR, Chal, EB, EB1/2/3, IB, MB, MB2a/b/c, LB, LB1/2/3, IA, IA1a/b/c, IA2a/b/c, Per, Hel, Rom, Rom1, Rom2, Byz, Isl, EIs, Late Isl, Uma, Abb, Med, Cru, Ayy, Mam, Ott, EOtt, Mod	Major periods of existence represented at the site, starting from Paleolithic (Pal) to moderns times (Mod)
9	Other Periods	As above	Additional periods represented at the site
10	Site Components	e.g. Small village; Ott houses; rock cuttings; burial caves	Principal discoveries at the site
11	More Components	As above	
12	Comments	e.g. Most of the site is destroyed now	Additional information regarding the site
13	More Comments	As above	
14	Excavated	Yes/-	Indication whether site was excavated or not
15	IAA Site Number	e.g. 2340/0	Israel Antiquities Authority (IAA) dataset number
16	Excavator	e.g. Sayf al-Din Haddad ('79); David Amit ('89)	Excavator(s) name(s), and year of excavation in brackets, if known
17	Excavation Institution	e.g. SOA	Abbreviated name of excavating institution
18	License	e.g. L-202/1979-0; L-451/1989-0	SOA's issued license number(s)

<sup>12</sup> For more information on the database's structure see Greenberg and Keinan 2009, 15-18.



19	Publication Bibliography	e.g. <i>ESI</i> 9 (1991): 162-163	Abbreviated references of publications
20	More Bibliography	As above	
21	Periods: LP-Ott	0/1/2	27 separate fields for periods of existence, from Lower Paleolithic (LP) to Ottoman (Ott), receiving a value of '0' (not present at the site), '1' (possible presence, or transitional period), or '2' (certain presence at the site). These numerical fields were included to the database in order to facilitate GIS queries by period

Table 5.8: Structure and possible values of WBEJAD list of surveyed sites.

The structure of the list of excavated sites is very similar to that of the list of surveyed sites presented in Table 5.8. However, it excludes fields relating to surveys (Survey Site Number, Survey Ref) and instead includes a field called 'Surveyed', which receives a value of 'Yes' or 'No'. An additional field called 'In Jerusalem', indicating whether the excavated site is located inside the municipal boundaries of Jerusalem or not ('Yes' or 'No'), may facilitate GIS querying.

In addition to lists of surveyed and excavated archaeological sites, the WBEJAD includes a list of 1,148 excavation licences issued by SOA between 1968 and 2007. Table 5.9 presents an example of the first record on this list, which includes a license number, site location and name, excavator and excavating institution.

	Database Field	Value
1	License No.	L-1/1968-0
2	X	151500
3	Y	93400
4	Location	151500/093400
5	Site Name	Kh. Rabud
6	Excavator	Moshe Kochavi
7	Institution	TAU

Table 5.9: Example of a record in the WBEJAD list of licenses issues by the SOA.

The WBEJAD is also available for online search (WBEJAD 2011), providing two options for data viewing and/or querying: (1) browsing data on a Google Map Interface (as KML data), and (2) querying data using an interactive map (Fig. 5.6). The database can be searched by Site Status (surveyed, excavated or both), Time Period(s) (from Neolithic to Ottoman), Types of Site (e.g. burial, cave, church, etc) and/or a Keyword. Search results would then

appear visually as sites on the map and also as a list of sites to its right. Clicking on a site or its name would lead to further information regarding the site, including its name and other names, major and other periods, and main components. These search results cover just a few of the database fields, but are planned on being expanded to cover all of its data at some point.

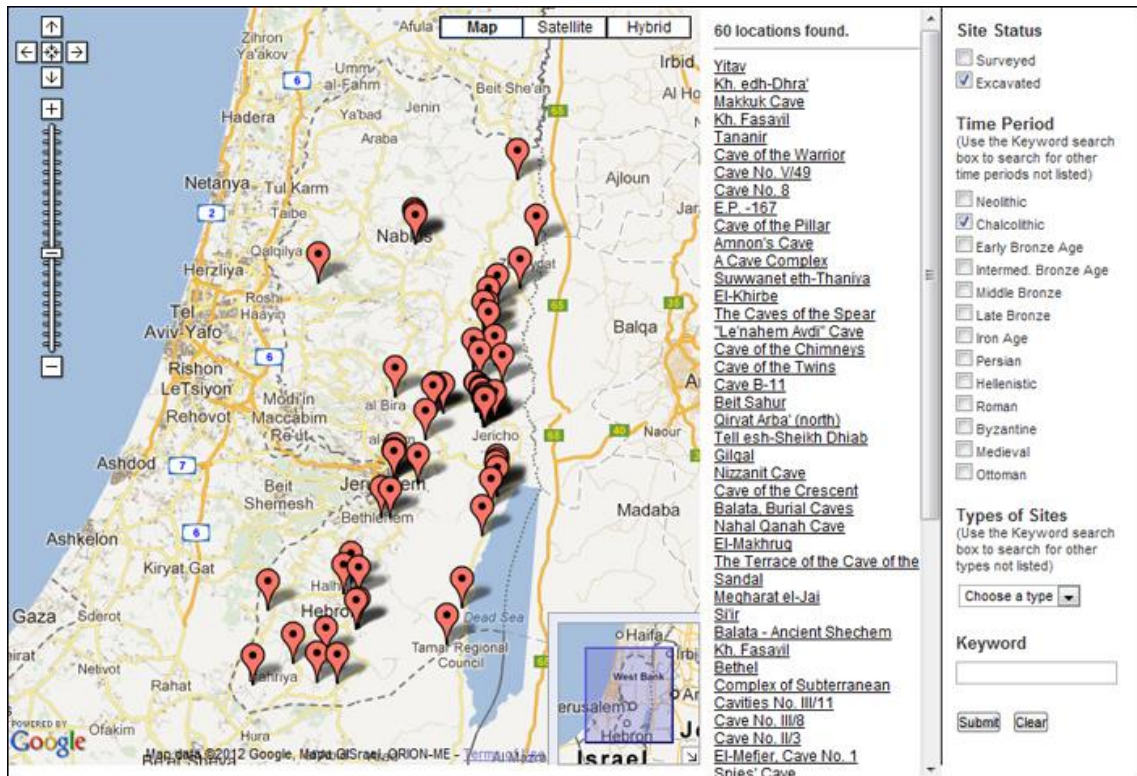


Fig. 5.6: Screenshot of the WBEJAD searchable map (WBEJAD 2011).

One of the main guidelines followed during the creation of the WBEJAD was granting full access to its data. In order to maximise its availability, the database was constructed in English (while having to translate many of its Hebrew sources), and was disseminated in several ways; it was published as an academic publication, including a CD with all the database files (Greenberg and Keinan 2009), and is available online as well (WBEJAD 2011). The website offers the database's files, bibliography and final publication for free download in addition to the online web-based version mentioned above. This data is licensed under a Creative Commons license (CC BY-NC-SA 3.0), which allows users to copy, distribute and adapt the data (but not use it for commercial purposes).

The WBEJAD was constructed with GIS functionality in mind, thus some database fields were adjusted in advance to facilitate spatial queries. Many GIS layers were used for the

purpose of generating maps for the database's publications or for academic presentations. These include:

- Modern Settings: Map of the Middle East, satellite imagery, areas of jurisdiction (A, B, C), separation wall, Green Line (armistice line of 1949), Palestinian and Israeli localities, modern roads
- Environmental Features: DTM (Digital Terrain Model), soil types, precipitation isohyets, water-courses, elevation levels

However, since these GIS layers were provided to the WBEJAD creators for the purpose of data visualisation and not for further distribution, these layers were not published along with the database, and were not made available for researchers or the public.

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#### 5.4.5 OTHER WEST BANK DATABASES

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Many other databases have been compiled for the West Bank or regions within it, by Israeli, Palestinian and foreign governmental organisations, NGOs and universities. These institutions would usually have interests in specific regions, managing projects of academic impetus or conservation purposes. Most of the resulting databases are thematic in nature or would have a very particular purpose. They are thus characterised by large variability of creators, aims, and geographic scopes. This overview of West Bank databases is divided according to institution type: governmental databases (Section 5.4.5.1), NGO databases (Section 5.4.5.2) and academic databases (Section 5.4.5.3). It does not aim to be exhaustive, but will point out the different types of databases and their purposes.

##### 5.4.5.1 GOVERNMENTAL DATABASES

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In addition to the official DACH database (described in Section 5.4.1), there are at least two other Palestinian governmental inventories, covering the entire West Bank (i.e. national-level inventories). The first one is an inventory of archaeological sites prepared by the Negotiation Support Unit (NSU), a technical unit established after the Oslo Accords by the Palestinian Liberation Organisation. The NSU prepared this inventory in order to inform

decision makers in their negotiations<sup>13</sup> (N. Al-Ju'beh, pers. comm.). As mentioned above, there are plans to incorporate this inventory into the DACH database. The second inventory is not in fact a database, but is still important as it is an "Inventory of Cultural and Natural Heritage Sites of Potential Outstanding Universal Value in Palestine", compiled and published by the DACH with technical assistance of UNESCO, following the convention of the World Heritage Committee in Budapest in 2002 (MoTA-DACH 2005; Antonelli 2006). This inventory, which includes 20 cultural and natural heritage sites in the West Bank and the Gaza Strip,<sup>14</sup> is a list of potential World Cultural and Natural Heritage places. The West Bank sites include: the birthplace of Jesus: Church of the Nativity and Old City of Bethlehem; Ancient Jericho: Tell es-Sultan; Old Town of Hebron al-Khalil and its environs; Mount Gerizim and the Samaritans; Qumran: Caves and Monastery of the Dead Sea Scrolls; El-Bariyah: wilderness and monasteries; the Dead Sea; Palestine, Land of Olives and Vines; the religious route in the Holy Land; Wadi Natuf and Shuqba Cave; Umayyad Palaces; Old Town of Nablus and its environs; Qanat es-Sabeel (The Aqueducts of Jerusalem); Throne villages; Sebastia; Umm Al-Rihan forest.

Governmental data collection is also conducted by Israel in Area C, which is under its full control. One example is the compilation of cultural heritage sites located around the Dead Sea, for the purpose of the National Outline Scheme for the Dead Sea and Its Shores (NOS13 2012), a strategic management plan devised by the planning administration in the Israeli Ministry of Interior. Among other issues relating to geomorphological and industrial processes influencing the landscape, the plan also relates to the touristic aspect of the Dead Sea and the Judean Desert. Archaeologists from Ben Gurion University prepared a list of cultural heritage sites around the Dead Sea, collecting information from different sources, surveys and inventories, including the WBEJAD. The major objective of this project was to scope out cultural heritage resources for tourism development, to be later incorporated in a holistic management plan for the Dead Sea (E. Cohen, pers. comm.).

#### 5.4.5.2 NGO DATABASES

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Palestinian NGOs collect data and prepare inventories covering the entire West Bank or specific regions of interest within it. The Palestinian NGO PACE (see Section 4.3.2) prepared lists of archaeological sites confined between the Green Line and the separation

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<sup>13</sup> This inventory was requested, but could not be acquired.

<sup>14</sup> In the West Bank the inventory includes 14 cultural sites and two natural sites.

wall (West Bank, including East Jerusalem), and sites threatened or destroyed due to the construction of this wall or other causes (West Bank, East Jerusalem, Gaza Strip; A. Yahya, pers. comm.). These lists were created in 2005 in the framework of a project entitled “Assessing the impacts of the Israeli separation Wall in the West Bank on Palestinian Cultural Heritage”, carried out under the auspices of IPA WG (see Section 1.1; PACE 2009, Previous Projects page). One result of this project was a detailed research which included case studies of West Bank sites that have been affected by the separation wall (Yahya 2009).

Another NGO, the Palestinian Institution for Cultural Landscape Study, also targets the collection of data on archaeological sites under threat in order to learn more about destruction processes of the Palestinian cultural landscape (Iwais *et al.* 2010). This NGO is creating an inventory of threatened and destroyed sites specifying factors of destruction, starting on a micro-scale of three archaeological sites and their immediate landscapes, with the aim of expanding to the macro-scale of the West Bank. The Bethlehem-based NGO Centre for Cultural Heritage Preservation, also aiming for heritage preservation, plans on creating an inventory of historic buildings and sites in the Bethlehem district (CCHP 2013, Rehabilitation Projects). All of these data collection projects by Palestinian NGOs have the safeguarding and preservation of cultural heritage as their primary objectives.

In addition to these documentation projects, the NGO Riwaq has also focused on particular aspects of cultural heritage and specific regions within the West Bank. One such example is the research project on the cultural landscape of Artas, which focused on the study of local water systems from the Roman period until today. Data was collected by Bargouth and Jaradat (2002) under the supervision of Al-Ju’beh, and included historical, archaeological and ethnographical accounts, Awqaf (Muslim religious authorities) documents, statistical and meteorological data, and archaeological resources (e.g. the Survey of Western Palestine); several GIS layers were also used in this project, such as geological, soil, hydrological and climate maps.

Other inventories that falls under the NGO category are trans-national inventories – commonly large-scale databases covering a vast area (such as the Middle East, the Mediterranean, or even the entire world), with the West Bank included in their geographical scope. This type of inventory is usually initiated by academic institutions (see following section), but also by organisations such as UNESCO. Aiming at promoting awareness and protection of some of the world’s most significant cultural and natural

sites, and following the World Heritage Convention (UNESCO 1972), UNESCO manages a list of World Heritage Sites, considered by the World Heritage Committee as having outstanding universal values. This list includes sites that are in danger in light of different types of threats or potential threats, and where protective measures are encouraged to take place. In June 2012, for the first time in its history, the Palestinian National Authority successfully inscribed a West Bank site in the List of World Heritage in Danger – the Birthplace of Jesus: Church of the Nativity and the Pilgrimage Route in Bethlehem. Thirteen additional cultural and natural heritage sites were submitted by the Palestinians to the World Heritage List, all of which are included in the “Inventory of Cultural and Natural Heritage Sites of Potential Outstanding Universal Value in Palestine” (see previous section). The Church of the Nativity is currently the only West Bank World Heritage Site (excluding the Old City of Jerusalem, which is considered as a separate entity by UNESCO).

#### 5.4.5.3 ACADEMIC DATABASES

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In addition to the Israeli WBEJAD (see Section 5.4.4), created in Tel Aviv University, there are many other projects initiated by Palestinian, Israeli, European and American universities, which involve the collection of data and creation of inventories. The main objective for these inventories is usually the accumulation of data for the purpose of scientific research, and this type of inventories is normally either local (focused on a certain region) or trans-national (very large datasets which cover the West Bank, among other regions and countries).

Local academic West Bank inventories are commonly the result of academic excavation or survey projects, which include the collection of data during fieldwork. One example is the inventory of archaeological remains created by the History and Archaeology Department in Birzeit University, collecting data around Hisham’s Palace, north of Jericho. This archaeological landscape survey, having completed a third season in 2012, is a joint project of Birzeit University and University College London. One of its main aims is to document the historic, cultural and environmental contexts of Hisham’s Palace, using a few different recording methods (Birzeit 2010; Hawari 2010a). Another example of a local inventory focused on a specific area of the Jericho Oasis was created in the course of a joint Palestinian-Norwegian excavation at Tell el-Mafjar (Anfinset *et al.* 2011), and included data on Late Neolithic and Early Chalcolithic sites. Additional regional archaeological

surveys and excavations are taking place by Palestinian universities, which ultimately result in local, fieldwork-based inventories.

Israeli academic surveys have also been taken place in parts of the West Bank. While the fifth and last part of Zertal's Manasseh Hill Country Survey is still under way (complementing its previous four volumes, Zertal and Mirkam 2000, Zertal 2004, 2005, 2008), other focused surveys have been conducted in the framework of PhD dissertations. Davidovich has been collecting data in the northern Judean Desert for his dissertation (at the Hebrew University of Jerusalem), re-examining previously surveyed sites in that area. His research in this region of the West Bank is part of a larger survey of the Judean Desert (which includes also Israel proper) focusing on sites from Chalcolithic to Late Iron Age periods (U. Davidovich, pers. comm.). Other local surveys included in Israeli PhD dissertations are those of Bar (2008) and Ben-Yosef (2007), focusing their research on the Jordan Valley.

A more unusual database, aiming both to create a knowledge-base for academic research and to contribute to a better management of cultural heritage sites, is PADIS – The Palestine Archaeological Data-bank and Information System – created by La Sapienza University in Rome (L. Nigro 2006; Nigro *et al.* 2011; PADIS 2012). This database, dedicated to the area of the Jericho Oasis, covers 105 archaeological sites and monuments (D'Andrea and Sala 2011), and includes data such as exact site location, major finds, environmental data, photos and bibliographic references. As in the case of NGO inventories described in the previous section, the main motivation behind the creation of PADIS was the urgent need to protect and preserve archaeological sites which are in a poor condition or otherwise face imminent threats (Nigro 2011, iii-iv).

Another type of academic inventories is trans-national inventories – commonly large-scale databases covering a vast area (such as the Middle East, the Mediterranean, etc), with the West Bank included in their geographical scope. Several universities worldwide have initiated this type of projects, which are generally characterised by the collection of data from sources of information such as available databases or publications, and the joint presentation of this data. These archaeological inventories are disseminated through websites and include digital maps, thus their level of accessibility is high – they are accessible online, free of charge. Their audience could be the general public, as well as academic researchers.



Cases of such inventories are abundant. For example, the Digital Atlas of the Holy Land (Levy *et al.* 2010, 143-144; DAAHL 2011), covering Israel, Jordan, Palestine, Lebanon, southern Syria and the Sinai Peninsula, is a collection of available datasets, including the WBEJAD for the West Bank. It aims at covering all archaeological data for any period, from Paleolithic to the British Mandate period of the 20<sup>th</sup> century. The Archaeological Atlas Project (ArchAtlas 2013) is another research project which includes the digital mapping of archaeological sites. It is divided into themes relating to agriculture and farming, urbanism, trade routes and visualising technology, and is focused mainly on prehistoric and early historical periods. Thus far, only one site (Jericho) in the West Bank is included in this project. Another example is Pleiades – an online Gazetteer of the Greco-Roman world, covering a very large region including Europe, Africa and Asia (Pleiades 2013). It combines information about ancient places, names and locations, and includes some sites in the West Bank. Other large-scale inventory projects include the Megalithic Portal (Megalithic Portal 2013), the DIALOG project (a joint collaboration of Google Ancient Places with a few academic institutions; DIALOG 2011), the Old World Trade Routes Project (OWTRAD 2009), and ANE Placemarks for Google Earth created in Uppsala University (ANE Placemarks 2013). Since these trans-national inventories do not generally target decision-makers and therefore not used by them, it was decided not to further consider them in this dissertation.

## 5.5 SUMMARY

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This chapter included three main overviews, covering different aspects of archaeological and heritage inventories and GIS. The first section of this chapter (5.2) examined different aspects of documentation, data collection and management, following international guidelines, conferences, workshops and other initiatives. Current global approaches to heritage documentation and inventory creation are an essential basis for further discussion and analysis of West Bank inventories. The following section (5.3) considered the role of GIS in different aspects of cultural heritage management and research. This section related to the benefits of using GIS and the reasons why these platforms are globally adopted as an integral part of heritage management systems. The last part of this chapter (Section 5.4) was dedicated to West Bank databases and their use of GIS. A more detailed examination dealt with four national-level databases – those of DACH, Riwaq, SOA and WBEJAD, discussing mainly issues of database objectives, methodology, structure,



contents, accessibility and GIS use. This chapter, coupled with theoretical approaches discussed in Chapter 3, provide a solid base for a detailed analysis of West Bank inventories presented in the next chapter.

## CHAPTER 6. ANALYSIS AND DISCUSSION OF WEST BANK INVENTORIES

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### 6.1 INTRODUCTION

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“... the archive... is a crucible of human experience, a battleground for meaning and significance, a babel of stories, a place and a space for complex and ever-shifting power-plays. Here one cannot keep one’s hands clean” (Harris 2002, 85)

As demonstrated in the previous chapter, West Bank inventories are highly diverse in nature, being created by different institutions in different political settings; but, perhaps more interestingly, they are created by two national groups which are in a state of conflict. This chapter provides a critical perspective and analysis of the major archaeological and architectural inventories created by Israeli and Palestinian institutions. This examination has two main objectives: the first is to tackle the issue of *value-based* bias or subjectivity attested in inventories; and the second is to learn about several other aspects of West Bank inventories and the use of GIS.

This chapter is, accordingly, divided into two main sections. The first section (6.2) covers research interests and heritage management priorities as they prevail in inventories. Preceding chapters discussed issues such as collective social identities, the effects of colonialism and occupation on knowledge production, and subjectivity in the archaeological discipline – in general (Section 3.3) and in the context of Israeli and Palestinian activities in the West Bank in particular (Section 4.4). This section will further discuss these issues in the context of inventories, arguing that past and present Israeli and Palestinian research interests and values can be traced in the ways data is being collected, used and disseminated. Several related questions are to be answered here: How do personal, institutional and national values find their ways into inventories, and how can these values be detected? How is the imbalance in Israeli and Palestinian power relations reflected by their respective inventories? What types of data are being collected, and what are being neglected?

The second section of this chapter (6.3) will focus on several other aspects of West Bank inventories as well as GIS use. A variety of issues will be discussed in this section: degrees

of accessibility to data, including how it is disseminated and choice of inventories' language (Section 6.3.1); accuracy of data and reliability of inventories (Section 6.3.2); views on the impact of the Israeli-Palestinian conflict on the methodology data collection, and the ways in which current inventories reflect the political climate (Section 6.3.3); and a discussion on GIS use and its limitations, as well as how GIS maps may resonate research interests or subjectivity (Section 6.3.4).

## 6.2 RESEARCH INTERESTS AND WEST BANK INVENTORIES

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“...the organisation of collective memory through the use of data-processing machines, is not merely a technical matter but one directly bearing on legitimation, the question of the control and ownership of information being a crucial political issue” (Connerton 1989, 1)

As demonstrated in Chapter 4 (Section 4.4), socio-political values and cultural identities of Israeli and Palestinian archaeologists are manifested in their research interests and heritage management priorities: Israeli institutions promote the study of Jewish-affiliated heritage, while Palestinian bodies focus on a heritage which is relevant to the Palestinian people. In order to detect these interests and priorities in inventories, a few aspects of documentation will be examined, including the aims and motivations of data collectors, timing and political circumstances in which data was collected, documentation methodology, and inventories' structure and contents. The aim of this section is, thus, twofold: first, to learn about how values find their ways into inventories, and second, to learn about how these values can be detected.

Due to several reasons, the analysis and discussion of Israeli and Palestinian inventories and documentation greatly vary in depth and details. The Israelis have been archaeologically active in the region for much longer than the Palestinians – which results in much more material to investigate. A direct result of this asymmetry is the nature of inventories: while the main Palestinian archaeological database is still under construction, the WBEJAD is completed and includes abundant data that was collected specifically by Israelis. As previously mentioned, the DACH database does not currently include any actual Palestinian surveys or excavations, but only the British surveys. Therefore, trying to detect Palestinian priorities and research interests in its data is much harder, and in many cases perhaps futile. In this sense, it would have been more interesting to analyse the data

collected in the PECDAR project, in the context of which many archaeological sites were visited by Palestinian archaeologists (see Section 5.4.1). However, I did not have access to any methodological notes relating to this survey, if they exist at all. In addition to the lack of a 'purely' Palestinian archaeological inventory, a greater knowledge of Israeli archaeology in general and the WBEJAD in particular led to an unavoidable focus on Israeli documentation and methodological trends.

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## 6.2.1 ISRAELI DOCUMENTATION

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Israeli governmental and academic institutions, as previously discussed (Section 4.4.2), set their own priorities when surveying, excavating, or managing archaeology in the West Bank. Since the beginning of Israeli archaeological activities in this region in 1967, archaeological sites affiliated with the Bible or with Jewish traditions and narratives have been receiving more attention and focus. This section examines how these preferences are manifested in Israeli surveys and excavations, which were later compiled for the creation of inventories. The WBEJAD, which is a synthesis of all of these surveys and excavations, reflects their priorities and interests. Therefore, the sources digitised for the creation of the WBEJAD are thoroughly examined here. This discussion will then be complemented by some insights from the SOA's database.

### 6.2.1.1 WBEJAD SURVEYS AND EXCAVATIONS

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Several Israeli archaeological surveys digitised for the creation of the WBEJAD had shared a similar motivation – the collection of data on biblical period sites, namely from the Bronze and Iron Ages. For example, the aim of Avi Ofer's survey of Judah, in the framework of his PhD dissertation, was to provide a settlement distribution for the Judean Mountain region in biblical eras (Ofer 1993, A:26). The emphasis of his research was thus on the Iron Age period; however, the survey he conducted for the research was executed in a unified way for all periods of existence (*ibid.*, A:27). Ofer was conscious of potential bias due to his very specific research interest, and tried avoiding it by restricting himself to "a synthesis of the settlement processes, keeping the appropriate scientific distance" (*ibid.*, 1\*). However, as will be demonstrated below, his survey methodology did in fact have an impact on the final results of the survey.

Concurrent surveys of the northern regions of the West Bank (often referred to as the ‘Hill Country’) also had the objective of learning more about the distribution of Bronze and Iron Age sites (Finkelstein and Magen 1993; Finkelstein and Lederman 1997a; Zertal and Mirkam 2000; Zertal 2004, 2005, 2008). Similar to the geographic designations of Ofer’s survey and different regions of the Emergency Survey (the first Israeli survey conducted in the West Bank, see Kochavi 1972a), the naming of these surveys’ regions according to their equivalent Israelite tribes clearly reflect their biblical framework: the Hill countries of Manasseh and Benjamin, the Land of Ephraim<sup>15</sup> and the Highland of Judah. These surveys were sponsored by the Institute of Archaeology at Tel Aviv University and the Scandinavian Organization for Israel and the Bible (Zertal 2004, 7; 2005, 11); it is possible that their motivations are, at least to some extent, reflected by the inclinations and agendas of their funding institutions.

Similar to Ofer of Tel Aviv University, the archaeologist Adam Zertal was also drawn to his survey area while seeking a topic for his Masters dissertation. He chose the region of Samaria since he viewed it as the “arena of the events which occupied the Biblical editor” (Zertal 2004, 1), an area “so crucial for the understanding of Biblical narratives and other texts” (*ibid.*, 6). Zertal also indicated that his survey area was chosen according to the “Biblical tribal boundaries” as well as geomorphological units, and not according to the arbitrary 10 km<sup>2</sup> squares surveyed according to the Israel Survey methodology (*ibid.*, 13). This choice of survey method is in accordance with the “special needs of archaeological survey in the land of the Bible”, and has its origins in the British surveys (*ibid.*, 2). In the latest published volume of Zertal’s survey, the biblical motivation is clearly inferred by his focus on two issues: “the relations with Transjordan and the archaeological experience of the Iron Age 1 Period” (Zertal 2005, 10; own translation).

It was not only Zertal’s personal interest in the biblical history of the region of Samaria that led him to survey this region; he also aimed at ‘repairing’ what he perceived as a bias or distortion in the Israeli archaeological research. According to him, the results of the Emergency Survey did not reflect the biblical archaeological picture in its entirety since it was not a full survey. This survey’s results, in turn, encouraged the creation of ‘minimalist’ schools of thought in the Israeli academia, which cast doubt on the historicity of the Bible.

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<sup>15</sup> The name of the Land of Ephraim Survey was later changed to the Southern Samaria Survey in order to “adhere to geographical features and avoid historical bias” (Finkelstein and Lederman 1997b, 1 no. 1).

The main purpose of the Manasseh Hill Country Survey was, then, to provide scholars with as complete picture as possible of the biblical region. Zertal regarded this mission as successful: “while many researchers reduce the historical reliability of the earlier part of the Bible, we pointed at a series of discoveries which contributed to the reliability of the Bible” (Zertal and Mirkam 2000, 11; own translation). Nevertheless, he does not regard his surveys to be political – only scientific (Hasson 2012).

The survey of the Hill Country of Benjamin also reflects its surveyors’ motivations and personal interests; these were clearly manifested in the very first paragraph of the survey’s publication:

“The hill country of Benjamin, the subject of this survey, is of major importance to the history of Eretz-Israel. Here were the roots of the Israelite monarchy, here the returning [Jewish] exiles settled in the Persian period and here the religious, political, and military infrastructure of the Hasmonean monarchy was consolidated” (Magen in Finkelstein and Magen 1993, 5\*).

In addition to this description of the perceived significance of the region, it was stated that, in spite of its being surveyed “with the aim of maximal documentation of all archaeological remains,” aspiring for objectiveness and use of scientific methods, the survey teams “worked independently and concentrated on topics of special interest” (*ibid.*, 6\*).

While the surveys mentioned above aimed at a ‘full coverage’ of their respective regions, other West Bank surveys aimed, by definition, at a partial coverage of specific areas. These include mainly surveys conducted for academic purposes, therefore focusing on specific periods or aspects of the archaeological remains, but not only. One of the surveys used in the creation of the WBEJAD was ‘Operation Scroll’, conducted at the end of 1993 and beginning of 1994. The fact that it was conducted immediately after the signing of the Oslo Accords (in September 1993) is no coincidence, and neither is the sense of urgency arising from the name given to this survey, ‘Operation’ (Silberman 1996). As clearly indicated by its name, the goal of this survey, and focused excavations taken place during its execution, was to recover any scrolls still hidden in the caves of the Quruntul and Qumran mountain ranges, where most of the Dead Sea Scrolls had been discovered (Wexler 2002, v). The awkwardness of its timing and political context was best described by Silberman:

“On November 14, a month before Israeli forces would have begun a staged withdrawal from the Gaza Strip and the Jericho region, the IAA launched an ambitious survey and excavation project dubbed “Operation Scroll.” At the very moment when Israeli and Palestinian negotiators were working out the details of the Israel-Palestine Liberation Organization understanding signed in Washington in September, 20 teams of Israeli archaeologists assisted by some 200 hired workers began searching for, and removing, ancient coins, pottery, manuscript fragments, and other archaeological finds from the caves and ravines of a 60 mile stretch of the lower Jordan Valley and the Western shore of the Dead Sea” (Silberman 1996, 132).

The IAA had to face Palestinian, Israeli and international harsh criticism regarding the timing, scale and opportunistic nature of this project. In response, the IAA’s spokeswoman denied “any political implications” (*ibid.*, 133), and the IAA’s director at the time claimed that these accusations were groundless (Drori in Wexler 2002, i).

As mentioned above, ‘Operation Scroll’ aimed specifically at uncovering Hebrew and Aramaic scrolls, considered by many Israeli-Jews as one of the most important types of tangible heritage. In search of these scrolls only caves were examined, thus the survey’s methodology was dictated by its motivation and agenda. Another example of the same objective is evident in one of the Benjamin survey areas, the Wadi el-Makukh region: “The aim of the Wadi el-Makukh caves survey was not archaeological; therefore we have ceramic finds from looted or excavated caves only” (Goldfus and Golani 1993, 268; own translation). In these two cases, survey motivations determined their methodology. Other examples of this direct link between motivation and methodology are abundant.

Methodological choices had to be made in the Emergency Survey (Kochavi 1972a), which was greatly restricted by time and funding. Due to these constraints, the surveyors could not have achieved a full coverage of the West Bank; therefore, they had to make decisions on coverage priorities. Reviewing the methodological notes of one of this survey’s regions, the Land of Judah, survey priorities were defined as follows:

“A. Archaeological examination of the sites to which historical identifications were proposed;

B. Examination of sites that are marked on maps as antiquity sites<sup>16</sup>;

C. Continuous coverage of the entire survey square [survey area].

With the time allocated for its work, the survey group completed *ca.* 80% of the first priority, *ca.* 50% of the second priority and very little of the third priority” (Kochavi 1972b, 19; own translation).

The first priority of Kochavi’s survey, priority ‘A’, aimed to examine sites that were suggested historical identifications by previous scholars. Historical sources in this context are usually books of the Bible (e.g. Books of Joshua, Samuel or Chronicles) or the Iron Age dated Samaria Ostraca, but could also be Hellenistic or Byzantine historical accounts such as the Book of Maccabees and Eusebius’ Onomasticon. Such Judeo-Christian sources focus mostly on biblical period or New Testament sites – thus the survey’s placing their examination as a first priority inevitably favours biblical, Jewish and Christian sites. Other regions covered by this survey had to prioritise their levels of coverage as well (Bar-Adon 1972, 92; Kallai 1972, 153). To some extent, it seems that this survey – the first to be conducted by Israeli archaeologists in the region, followed the objectives of preceding Western surveys – to identify archaeological sites with places mentioned in the Bible.

Other types of methodological choices which reflect surveyors’ priorities were made while planning the strategies of Israeli surveys. One notable example of such choice is the degrees of documentation of this period or another. It is evident that some specific periods were better documented than others, while, at times, some periods were not documented at all. For instance, the treatment of prehistoric periods<sup>17</sup> during surveys was occasionally partially addressed, while at other times completely ignored. Most Israeli surveyors working in the West Bank were not accompanied by lithic experts, and their emphasis was set on pottery collection. This adopted practice resulted in a serious under-representation of Palaeolithic to early Neolithic sites in most surveys, and in turn in the final WBEJAD inventory that had digitised them.

The non-inclusion of prehistorians and subsequent impact on the final result of surveys’ data collection were referred to in some survey publications. For example, in the survey of Benjamin, it was mentioned that “prehistorians did not participate in the survey teams,

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<sup>16</sup> Lacking an exact definition of an ‘antiquity site’, it is fair to assume that the Emergency Survey editor referred here to the legal definition of an antiquity site (see Section 4.2.2.1).

<sup>17</sup> Israeli surveyors usually refer to prehistoric periods as pre-pottery periods, which range from the Lower Paleolithic (starting from *ca.* 1,000,000 BP) to the end of the Pre-Pottery Neolithic period (*ca.* 5,500 BP).



and therefore prehistoric finds are virtually absent from the survey” (Finkelstein in Finkelstein and Magen 1993, 11\*; see also Goldfus and Golani 1993, 268). The survey of Judah excluded prehistory as well: “The Pre-Pottery periods are not discussed in this research” (Ofar 1993, 28\*), and such was the case in the Southern Samaria survey as well (Finkelstein 1997, 13). Prehistoric sites were not recorded in the Map of Mar Saba survey either (Patrich 1994, 13), where the surveyor did not consider it necessary to conduct a prehistoric survey since “sites from the Paleolithic, Epipaleolithic and Neolithic periods were recorded within the area of neighboring Map of Herodium” (*ibid.*, 12\*). But, in fact, only 4% of the area of the Map of Herodium underwent a prehistoric survey – and even then it was not an exhaustive one (Gopher in Hirschfeld 1985, 17\*). Fig. 6.1 demonstrates how the distribution of prehistoric sites, dating from the Lower Paleolithic to the Pre-Pottery Neolithic period, is determined by the areas which were surveyed by prehistorians.

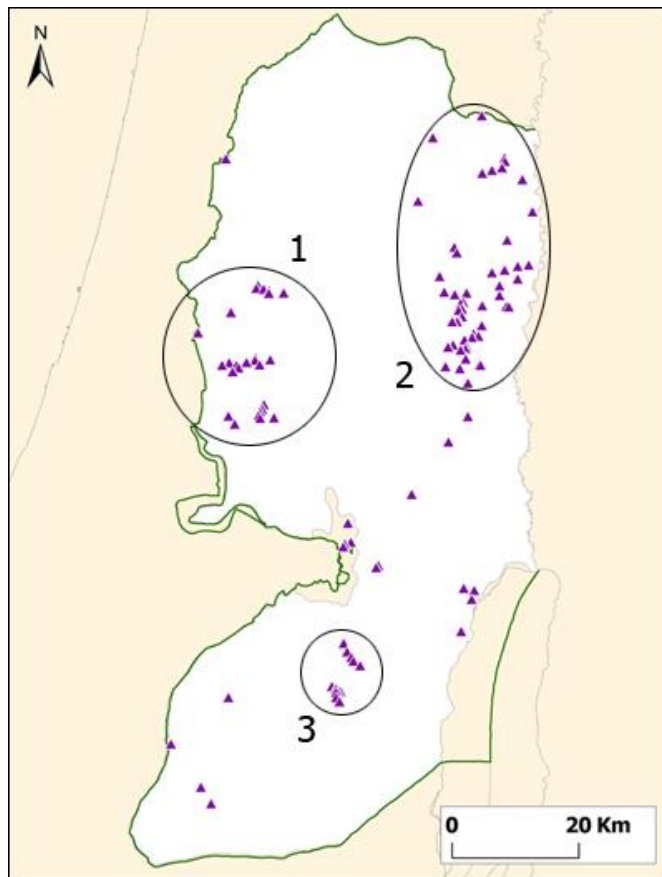


Fig. 6.1: The distribution of prehistoric sites digitised for the WBEJAD. The three main clusters of prehistoric sites represent the following surveys: 1 = Barkai *et al.* 1997; 2 = Zertal 2005, 2008; 3 = Hirschfeld 1985.

Later periods, notably from the Early Islamic period onwards, were frequently neglected too; this is especially true for the Ottoman period, which is the latest historical period

recorded in archaeological surveys in this region. Some survey publications mentioned this inadequacy of the recording of late periods. In the Emergency Survey, for example, it was stated that “little attention has been given to these periods [Early Islamic period onwards] in this stage of the survey, and one should not draw historic-settlement related conclusions from the collected data” (Kochavi 1972b, 24; own translation). The sharp decline of surveyors’ interest in post-Byzantine periods and lack of archaeological knowledge of later periods is also exemplified in the survey of Judah: “... it was not possible to divide these long periods (1,300 years in total), or to detect internal processes” (Ofar 1993, 31\*); and in the survey of the Manasseh region: “These periods have been the most ‘neglected’ from the ceramic point of view, and it seems to us that their internal division is insufficient” (Zertal 2008, 55). This compromise in data collection of the late periods is probably most distinct when it comes to the Ottoman period. The survey of Benjamin indicated that “it is possible that in some areas the collection of the Ottoman ware was somewhat insufficient” (Finkelstein in Finkelstein and Magen 1993, 11\*), and, “obviously, the relative portion of pottery sherds from the Ottoman period in Arab villages does not represent the real quantity of pottery sherds at the site” (Finkelstein 1993, 22; own translation).

These interests and disinterests of Israeli surveys in certain periods of occupation can be traced in descriptions of survey results, broken down by periods, as they appear in survey publications. The focused interests of many surveyors in the Bronze Age and especially the Iron Age are demonstrated by the often detailed chronological, ceramic and stratigraphic overviews that these periods received in publications. Very frequently, Iron Age overviews are proportionally much lengthier and more comprehensive than other periods attested in surveys. At the same time, later periods, and especially the Ottoman period, may be provided with very short and lacking overviews, if not completely ignored.

This pattern is demonstrated, for example, in the overview of one of the Emergency Survey regions – the Land of Ephraim and Manasseh. Occupational periods of the Early Bronze to Iron Age 2 received extensive and detailed descriptions in comparison with the Persian to Byzantine periods. Periods later than the Byzantine (Early Islamic and onwards) were not even mentioned in this overview (Gophna and Porat 1972, 196-201). In his description of the sites visited in the Land of Judah, another region of the same survey, Kochavi elaborated on the ‘Israelite Period’ (Iron Age) more than any other period; his overview of the Iron Age included pottery analyses and identifications of biblical sites (Kochavi 1972b, 20-23). Similarly, due to his interest in the Iron Age, and despite covering

all periods of existence in his survey, Ofer claimed that “especially detailed are the discussions of the Iron Age 2 phases” (Ofer 1993, 23\*).

Similar patterns are apparent in the survey of the Hill Country of Benjamin. For example, in the overview of the northern part of the Maps of Beit Sira, Ramallah and el-Bireh, the summary of the different periods featured much lengthier descriptions on the Bronze and Iron Ages (Finkelstein 1993, 23-27), much less elaborate descriptions of the Persian through Middle Ages periods (*ibid.*, 27-29), and no summary of the Ottoman period. This is despite the fact that only 57 sites of pre-Persian date were discovered in this area, in comparison with 285 post-Persian periods (including 7 to 9 Ottoman period sites). This phenomenon is evident also in the description of the southern part of the Maps of Ramallah and el-Bireh and northern part of the Map of ‘Ein Kerem (Feldstein *et al.* 1993, 136-140), where sites dating to the Early Bronze to Iron Age received thorough summaries, including elaborate interpretations and references to previous excavations in the area, while the Ottoman period received a very laconic description. Other regions surveyed as part of the survey of Benjamin did not publish a summary of the Ottoman period at all (Goldfus and Golani 1993), or included a very short one (Dinur and Feig 1993, 347; Hizmi 1993, 101) – in spite of the fact that pottery sherds were collected for that period of time.

A distinctive interest in the Bronze and Iron Ages is also distinguishable in the list of abbreviations of periods and their explanations in the Southern Samaria survey (Finkelstein 1997, 18-19), where biblical periods received elaborate accounts, detailed divisions into sub-periods and descriptions of pottery types. Similar trends are also evident in Zertal’s survey publications: in one survey volume, the overview of pottery types reflected more emphasis on Iron Age pottery than other periods (Zertal 2004, 40-45); in another volume, periods from the Early Islamic period onwards receive no attention at all (Zertal 2008); an introduction to the settlement overview (by periods) focused almost entirely on the Iron and Persian Ages (Zertal and Mirkam 2000, 41-42); and in another volume, the Iron Age was described in much more detail, including descriptions of excavations, indication of parallel strata or features from other sites, types of pottery and references (Zertal 2005, 58-83; this is also evident in the survey of the Map of Amazya, see Dagan 2006a, 29\*-47\*). Moreover, when reviewing the different surveyors’ synopses of their survey areas, it is only Zertal who refers to an Israelite ‘ethnos’, which according to him started to appear in the Iron Age 1 and replaced the “people of the time” previously residing in the area (Zertal and Mirkam 2000, 47; Zertal 2005, 64-66). In

addition, continuity in settlement patterns from Iron Age 1 to Iron Age 2 was also explained by this ethnic linkage (Zertal and Mirkam 2000, 47).

The agenda and interests of Israeli surveyors described above could be quantified and compared (Table 6.1). This can be done by summing up the number of occurrences of different periods of occupation at archaeological sites visited during surveys, using data provided by survey publications (Greenberg and Keinan 2007, 33-38). Since multiple periods can be attested at a single archaeological site, the total number of ‘occurrences’ is greater than the total number of sites.

Region, Surveyor and Institution	Prehistoric	Bronze Age	Iron Age	Persian-Hellenistic	Roman-Byzantine	Early Islamic-Ottoman
Manasseh <sup>18</sup> (Zertal, TAU+HU)	80	425	594	428	1005	606
Ephraim (Finkelstein, TAU)	8	182	553	627	864	529
Judah (Ofar, TAU)	8	88	372	185	458	298
Benjamin (Various, SOA)	17	142	234	265	590	430
Amazya (Dagan, IAA)	25	311	366	181	1080	717
Excavations (SOA)	35	82	104	144	356	170

Table 6.1: Total number of ‘occurrences’ of periods of occupation identified in several surveys and in sites excavated by the SOA. Abbreviations: TAU = Tel Aviv University; HU = Haifa University; SOA = Staff Officer for Archaeology; IAA = Israel Antiquities Authority; after Greenberg and Keinan 2007, 35 table 3.1.

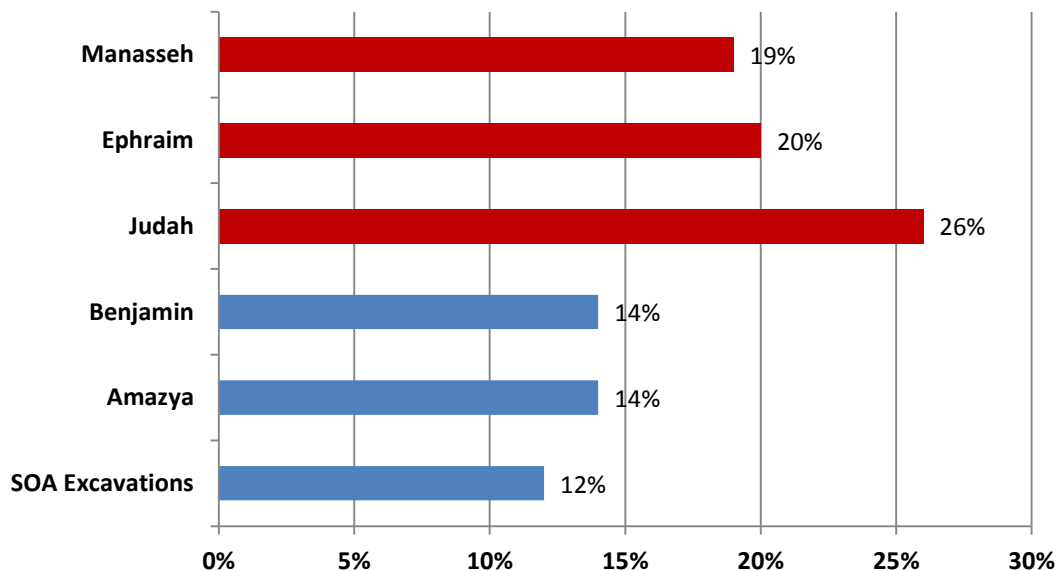


Fig. 6.2: Ratios of Iron Age sites calculated from the data in Table 6.1, as attested in Tel Aviv and Haifa University surveys on the top three rows (Manasseh, Ephraim, Judah), and SOA/IAA surveys (Benjamin, Amazya) and excavations at the bottom.

<sup>18</sup> Data is based on the published first four volumes of the Manasseh Hill Country Survey.

The similar distribution patterns attested in the surveys examined in Table 6.1 reflect adherence to professional methodological procedures and recording standards; nevertheless, these patterns still reflect surveyors' interests (see Fig. 6.2). A higher proportion of discovered Iron Age sites can be attested in Tel Aviv and Haifa University surveys, where the this period ranges between 19% and 26%. This proportion is greater than its equivalent in other Israeli surveys in the West Bank (such as Benjamin and Map of Amazyra surveys: 14%), in SOA's excavations (12%), and in surveys of adjacent areas in Israel proper (13-14%; Gophna and Beit-Arieh 1997; Weiss *et al.* 2004; Greenberg and Keinan 2007, 35-38). Especially interesting is Ofer's very high ratio of 26% Iron Age sites, occurring in spite of his awareness and avoidance of potential biased survey results. Ofer discovered double the number of Iron Age sites expected in an "average" West Bank or Israeli adjacent regions. While it is plausible that Ofer's survey area "naturally" featured more Iron Age sites than other regions, it seems that this proportion of Iron Age sites reflects his specific interest in that period.

The enhanced interest of some surveyors in the Iron Age, at times clearly stated in survey publications and at others only implied by them, is therefore corroborated by these quantifications of occurrences of different time periods. This interest may be an institutional one (e.g. Tel Aviv University, Haifa University), but perhaps is more likely to be a personal one. Archaeologists such as Adam Zertal, Avi Ofer and Israel Finkelstein have been investigating the Iron Age extensively; therefore, it is unavoidable that its identification on the ground was of high importance to their research, career and/or ideology.

Another way of detecting research interests of Israeli academic institutions in Israeli inventories is to review the sites they chose to excavate. To begin with, some targeted excavations took place in the course of archaeological surveys. In the area of the Northern part of the Maps of Beit Sira, Ramallah and el-Bireh, for example, excavations of very particular nature had taken place in that area, as part of the Ephraim survey by Finkelstein (1988-1989): the excavations of Khirbet ed-Dawwara (Iron Age site, Finkelstein 1990), Dhahr Mirzbaneh (Intermediate Bronze Age site, Finkelstein 1991) and the biblical Tell Shiloh (Finkelstein 1985), which aimed to "reveal the material culture and occupational history of a central Bronze and Iron Age mound" (Finkelstein and Lederman 1997b, 1). The Shiloh excavations were in fact the main objective of the area's survey, which aimed at identifying settlement patterns as preparatory research – prior to excavations at the site (Finkelstein 1997, 11). Another example of a similar link between surveys and excavations

of interest is evident in Zertal’s survey, in which one area (covered in its third published volume) did not undergo a full survey because the team’s time and focus were reallocated to a biblical excavation. Zertal estimated that 10% of that survey area was not fully surveyed since “after the discovery of the altar site at Mt. Ebal (1980) and the beginning of its excavations (1982), research focus shifted to the area of Nablus” (Zertal and Mirkam 2000, 12; own translation).

The examples above are of sites that were excavated in the course of archaeological surveys; however, interesting patterns could be observed when examining all Israeli excavations in the West Bank, as well as excavations by foreign institutions (universities or overseas schools of archaeology in Jerusalem), conducted under Israeli permits. Using the WBEJAD, which lists all of these excavations, it is possible to isolate Israeli and foreign academic excavations (as opposed to SOA excavations), and then, if applicable, ascribe each of the excavated sites with a cultural or religious value such as biblical, Jewish, Islamic and/or Christian (Table 6.2).

	B	C	I	J	B/C	B/J	C/J	J/I	*	No Cult	Total
<b>Tel Aviv University</b>	15%			31%			8%		8%	38%	<b>100%</b>
<b>Hebrew University, Jerusalem</b>	10%	23%		13%	2%	2%	11%	2%	4%	33%	<b>100%</b>
<b>Haifa University</b>	20%						40%		20%	20%	<b>100%</b>
<b>Bar Ilan University</b>	14%								14%	72%	<b>100%</b>
<b>Foreign Institutions</b>	32%	16%		5%		5%	5%	5%	16%	16%	<b>100%</b>

Table 6.2: Cultural affiliation of archaeological sites excavated by Israeli and foreign institutions. Abbreviations: B = Biblical; C = Christian; I = Islamic; J = Jewish; \* = unaffiliated major site; modified from Greenberg and Keinan 2007, 27 table 2.1.

This tabular data can be projected onto a GIS platform to create a map of West Bank academic excavations, sorted by their cultural affiliations (Fig. 6.3).

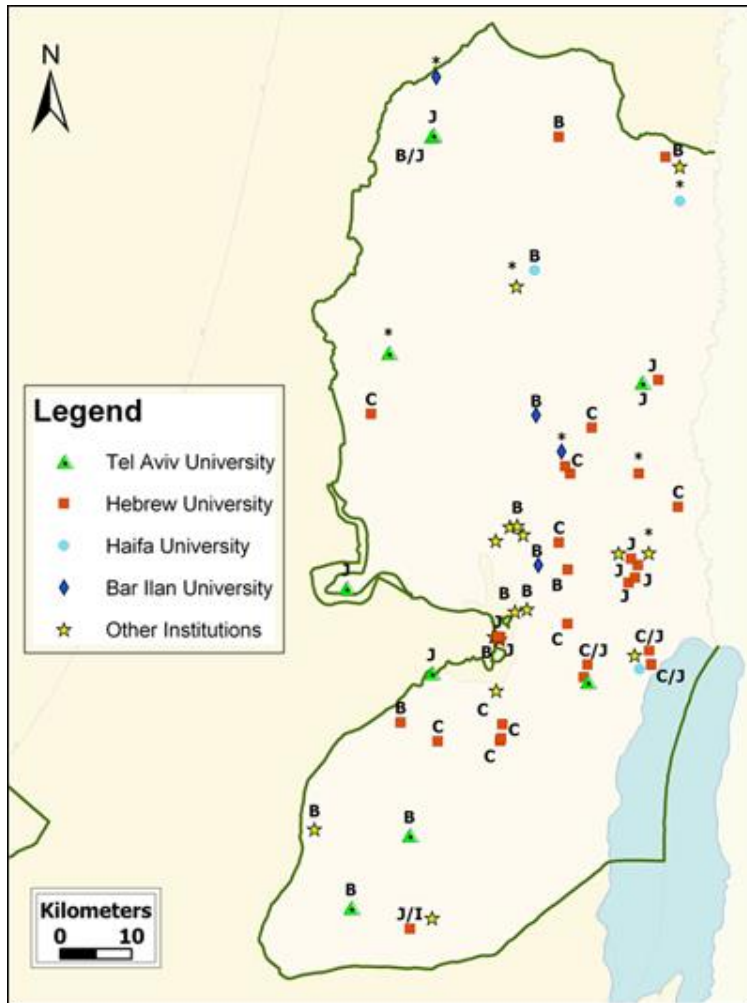


Fig. 6.3: Academic excavations and their cultural affiliation; after Greenberg and Keinan 2007, 30 map 2.2.

Examining this summary data on Israeli and foreign academic excavations in the West Bank, some significant trends become evident. First, Table 6.2 demonstrates a glaring disinterest in archaeological sites that could be affiliated solely to Muslim culture or religion. All sites that could be ascribed with a cultural or religious value were chosen to be excavated because of their biblical, Jewish or Christian affinities. Some interesting patterns are also reflected by the map of excavations by affiliation as seen in Fig. 6.3. For instance, there is a clear academic focus on biblical excavations along the central hills of Samaria (attested by the vertical line of 'B's in the northern West Bank). Another example of an academic pattern of interest is a focus of the Hebrew University in the excavations of Judeo-Christian sites east and south of Jerusalem (as attested by the red squares in these areas).

As demonstrated in this analysis of most of the sources used to construct the WBEJAD, some clear patterns could be observed – mainly a special interest in biblical-period and Judeo-Christian archaeological sites, coupled with a systematic neglect of the earliest and latest archaeological periods. These research priorities had a crucial impact on the final form of the WBEJAD, being a digitised compilation of all of these Israeli surveys and excavations. The final WBEJAD inventory, therefore, clearly represents some types of archaeological sites better than others – and in this way it embodies Israeli research interests, priorities and preferences. In the following section, which looks into the SOA’s database, it will be demonstrated that similar interests and priorities are traceable in this inventory as well.

#### 6.2.1.2 PATTERNS IN SOA’S DATABASE

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The examination of SOA’s database was, to some extent, affected by the lack of any methodological notes concerning its construction – if such exist. This absence made it impossible to learn how the database was created – and especially which sources were used in its formation. As mentioned in Section 5.4.3, it could be observed empirically that several sources were used for its construction, together with new data collected directly through fieldwork. In light of the Staff Officer’s refusal to share any information regarding his database, which greatly limits the discussion on trends or patterns which may prevail in it, only the received data itself could be explored; this examination, however, offered some interesting insights.

One of SOA’s database fields is named ‘RELG\_CONC’, and intends to indicate whether the recorded archaeological site is religiously significant (‘Yes’) or not (‘No’). The following archaeological sites received the value ‘Yes’: Mount Gerizim, Nebi Samwil, Cave of the Patriarchs, Mount Ebal, Kifl Hares (Joshua’s Tomb), Rachel’s Tomb, Joseph’s Tomb, Khirbet Susiya, Tell Rumeida, and the Good Samaritan site. It is evident that a ‘Yes’ was granted exclusively to the most important Jewish/Samaritan sites – and especially biblical ones – while disregarding other sites which are clearly religiously significant for Christians or Muslims. It could be assumed that the exclusive assignment of the value ‘Yes’ to the above mentioned sites indicates an Israeli national interest – in those sites important to Jewish heritage.



Another database field indicates whether a site could be considered as having national significance ('NATI\_SIGNF'). Two hundred (200) archaeological sites were assigned with values of 'A', 'B', 'Yes' and 'No' under this database field, while the rest of the records did not receive any such indication. Examining those archaeological sites that were defined as of national significance, some selection criteria become evident; however, these criteria have numerous exceptions – for unclear reasons. Sites receiving the value 'A' (26 in number) can be viewed as exclusively affiliated with Jewish values; these are biblical (e.g. 'Ai, Tell en-Nasbeh), Samaritan (e.g. Samaria-Sebastia), Hasmonean (e.g. Sartaba, Kypros), Herodian (e.g. Solomon's Pools, Herodium) and other major sites dating to the Bronze and Iron Ages. Sites receiving the value 'B' (30) may seem to be of less importance. Among these are some biblical sites (e.g. Ta'anakh, Kh. Nisieh), Samaritan, a synagogue and other major Bronze and Iron Age sites. There are some additional sites under this category, such as Persian and Roman sites. Twenty (20) sites received a 'Yes' value, some of which are of Jewish/biblical affiliation, but many others do not seem to be affiliated with any clear value. Sites receiving a 'No' value (124) oddly reflect a similar selection criteria to those of the 'Yes' value. While most of them do not demonstrate a definite value, there are some Christian and biblical sites of high importance that fall under this category, such as the Cave of the Patriarchs and Shiloh. When examining the remaining sites of the SOA database, those which received no value at all for the 'national significance' field, it became apparent that many of these are actually some of the most important sites in the region, including Joseph's Tomb, Mount Gerizim, Kifl Hares (Joshua's Tomb), En-Nebi Samwil, Tell Rumeida, Susiya and Tell es-Sultan, in addition to considerably important Christian sites such as several monasteries and the Baptism site, and important Muslim sites such as the maqam of Nabi Musa and the sacred Muslim cemetery adjacent to it.

Since the SOA's database is seemingly not fully updated, values assigned (or not assigned) to fields such as 'religious connection' or 'national significance' cannot be assumed to be coherent or complete. In spite of that, it is obvious that the main criterion for indicating sites as religiously and nationally meaningful is an affiliation with Jewish values – while Christian and Muslim sites remain largely unrecognised by these database fields, and thus by the SOA. These views do not conform with the current antiquities law currently applied to the Israeli-controlled areas of the West Bank (as previously discussed in Section 4.2.2.1).

### 6.2.1.3 DISCUSSION

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“Archives have the power to privilege and to marginalize. They can be a tool of hegemony; they can be a tool of resistance. They both reflect and constitute power relations” (Schwartz and Cook 2002, 13)

Despite the above biases, in my opinion, the values of a biblical-Jewish heritage introduced into Israeli inventories are personal and institutional values, and only reflect nationalist agendas indirectly. It is mainly the research interests of individual Israeli archaeologists and their identity as Israeli/Jewish that is manifested in Israeli inventories. As discussed by Broshi (2008), even the first Israeli survey in the West Bank – the Emergency Survey – was not nationalistic in nature. This and other West Bank surveys actually have an important role in refuting the reliability of the biblical story of the conquest of the Land of Israel. Broshi agrees that, while there is “no doubt that many of the Israeli archaeologists showed nationalistic tendencies, especially in choosing their research topics” (*ibid.*, 48; own translation), if they were really nationalistic, one should be able to demonstrate that their ideological biases led them to reach erroneous conclusions (*ibid.*, 50-51). It seems that just as Israeli archaeology had ceased to be a nationalistic discipline at an early stage, so was Israeli archaeological documentation in the West Bank, which started in the late 1960s. What did affect the final result of data collections were general research interests – and not overt sentiments of nationalism.

When looking back at the last 46 years of Israeli activity in the West Bank, one can see that the interest in the biblical/Judeo-Christian past has always been distinct; however, data collection practices have changed over the years. The preliminary Emergency Survey, conducted when it was still largely unknown how long Israel was going to retain the newly occupied territories, was followed by a survey-rush which was initiated by Zertal in 1978, and reached its pick during the 1980s. By the time of the signing of the Oslo Accords in 1993, most of the West Bank has undergone an archaeological survey by Israeli teams. Survey activities dwindled in the 1990s and 2000s, with several smaller-scale surveys, often for research purposes. The WBEJAD was created between 2005 and 2009, at a point of a retrospective on documentation practices and its results.

The number of Israeli archaeological surveys and excavations has dramatically decreased over the last few years. This could be the result of a few circumstances. First, in terms of survey coverage, most of the region is perceived to have already been covered, to some

extent, by previous surveys. In addition, international criticism on Israel conducting illegal archaeological activities, which intensified post-Oslo, could be deterring some archaeologists from initiating projects in the West Bank by increasing their awareness of the ethical aspects of working in an occupied territory. The decline in archaeological activities could also relate to changes in the SOA's policies, and/or the retirement of the previous Staff Officer Magen and appointment of Hizmi in 2009.

Following a request based on the Freedom of Information Act, the NGO Emek Shaveh received a list of SOA's excavations in the years 2009-2012 in May 2012. This list included only 30 excavated sites, the majority of which was salvage excavations (the SOA also stated that there were no 'initiated' excavations in 2010). The examination of these sites revealed that almost all of them are in or near Jewish settlements, industrial zones or military bases (e.g. Beit El, 'Ein Mabu'a, 'Eli), or on the route of either the separation fence or modern roads. The small number of initiated excavations does not seem to reflect an apparent 'bias' in choice of sites; these include, for example, the Red Fort (the Good Samaritan Roman-Byzantine fortress), Khirbet Faza'el (large Chalcolithic site), Tell Shiloh (biblical site), and Khirbet 'Eqed (Hellenistic-early Roman site).

Regardless of the recent changes in Israeli activities, the promotion of research in the biblical/Judeo-Christian direction, and neglect of other areas of investigation, is still manifested in Israeli inventories. These interests and disinterests can be seen as a reminiscent of past Western archaeological activities in this region, when scholars travelled to Palestine in search of the identification of sites mentioned in the Bible. In her discussion on 'archival impulse' or 'archival fever' (see Section 3.3.2), Butler refers to the British surveys of the late 19<sup>th</sup> and early 20<sup>th</sup> century, stating that "it was the Palestine Exploration Fund's (PEF) own 'archival impulse', and the fund's desire for cultural appropriation and claims to have identified a 'homeland-origin' (i.e., of Christendom) which provided the 'scene setting'" (Butler 2009b, 240). Israel has inherited its 'archival fever' from preceding explorers, as especially evident in the sense of urgency and motivations for the Emergency Survey and Operation Scroll. Thus, Western colonial practices and the cultural-religious values that they represent are still echoed in today's situation of the Israeli occupation of the West Bank and its conduct of archaeological data collection.

Moreover, it could be claimed that the actual pedestrian exploration of Israel/Palestine can be viewed as tightly associated with the Zionist ethos of conquering the land by foot.

This ethos is usually referred to in the context of fieldtrips (such as school trips in Jewish-Israeli schools), which enhance nationalist ideals with clear geographic “evidence”, and establish the ideology of sovereignty over the land. Some school fieldtrips can be viewed as a Zionist instrument through which pupils ‘conquer’ the landscape by travelling in it (Eliaz 2008; Markowitz 2012). However, while this type of Zionist mindset is more commonly discussed with relation to the Israeli public, it could also adhere to Israeli archaeologists (Hasson 2012).

The ability of Israeli archaeologists to roam about the West Bank and document its heritage according to their own priorities and preferences provides them with ‘archival power’. According to Glock (1995, 53), the frequent exclusion of late periods has “disinherited the Palestinian by a process of carefully selected data collection”. The WBEJAD, which compiles all of this data, reflects what Trouillot (1995, 27) called a “bundle of silences” – it exhibits Jewish-related heritage much more than Muslim/Palestinian heritage. The political dominance of Israel is thus evident in the corpus of data created during the years of occupation, a corpus of *hegemonic knowledge*, reflecting Israeli society and its values. And while Israeli archaeological activities proliferated, there were none on the Palestinian side before 1994. This resulted in much more data collected, analysed and interpreted by Israelis, according to their preferences and interests. The present imbalance of power has shaped approaches to heritage documentation by Palestinian institutions, as will be demonstrated in the following section.

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## 6.2.2 PALESTINIAN DOCUMENTATION AND INVENTORIES

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Similar to Israeli archaeologists and institutions, the Palestinians have their own documentation priorities as well. These are generally manifested in the types of inventories that they create and the motivations behind their construction. One of the most evident approaches apparent in Palestinian inventory creation is the promotion of a *Palestinian* heritage. Perhaps the most promoted type of heritage is vernacular architecture – standing structures built according to local traditions. This preference is mainly evident in Riwaq’s objective to create a registry of historic buildings, with the main aims of protecting, preserving and raising awareness to traditional Palestinian private houses and public structures. The main ambition of Riwaq’s exhaustive efforts of

inventory creation was to protect vernacular architecture, which symbolises Palestinian building traditions and way of living. The importance of this project is emphasised on Riwaq registry's website, stating that its creators "regard this Registry as the first step in the long process of safeguarding Palestinian cultural and natural heritage" (Riwaq 2011, Home). Their meaning of a 'Palestinian cultural and natural heritage' in this context is not only a heritage which is located in Palestine, but also a heritage which is *Palestinian* in its nature and essence. Khaldun Bshara, the current co-director of Riwaq, recently related his stance in an interview:

"We are doing something very political while we are doing apolitical stuff. We believe that these buildings and cultural sites are the only physical [artifacts] that are left for us to use as an *identity* symbol, and we see our work as a central element to creating a *national identity* of Palestine" (Eglash 2011; own emphasis).

Here Bshara is explicit about the link between architectural heritage and a Palestinian collective identity. Riwaq's goal is shared by other Palestinian NGOs such as the Bethlehem-based Centre for Cultural Heritage Preservation (CCHP), which aims to restore and preserve the built heritage in its region. The role of this type of Palestinian inventories, which document vernacular architecture, is to reconstruct Palestinian identity through the reconstruction of a collective 'archival memory' (Butler 2009b).

As discussed by Butler (2009b, 252), the concept of 'archival memory' was broadened by the Palestinians to include a wider consideration of cultural heritage – such that includes both tangible and intangible heritage resources. By examining the different Palestinian heritage inventories, it also becomes evident that archaeological heritage does not play a major role, and is not necessarily perceived as the most important type of heritage. Currently, the only Palestinian inventory that is purely an archaeological one is DACH – and that is also planned for revision, with its intention to include intangible heritage in the future. This objective of DACH – to design and manage a holistic database – best exemplifies the importance of other types of heritage which are not archaeology, and which probably reflect a Palestinian identity better than archaeology does.

Intangible heritage, which includes oral histories and traditions, should thus be documented in order to be better preserved and presented. The importance of including intangible heritage in a nation's official inventory has been identified in the United States,

for example, where the National Register normally overlooks this type of heritage. Interestingly, the reason for this lacuna is similar to the one in Israel/Palestine, which is a basic institutional misunderstanding as for what is considered important by local communities. This fallacy originated in the 19<sup>th</sup> century, when preservation movements were founded by rich philanthropists, whose interests “were those of a very narrow segment of U.S. society” (Morgan *et al.* 2006, 715). Another reason for the omission of intangible heritage from heritage inventories is the traditional role of such inventories in assisting the planning of development strategies – which take into consideration tangible and spatial heritage such as historical buildings or archaeological sites. Intangible heritage, lacking geographical boundaries, has therefore been left out of such inventories.

The importance of documenting intangible heritage in Palestine has been well understood by the Ministry of Culture, which has been constructing a National Inventory of Palestinian Intangible Cultural Heritage. This project was launched in October 2010, and includes, for example, the documentation of traditional agricultural and fishing techniques (UNESCO 2008, 87; Al-Barghouti 2011).

Several organisations had already preceded the Palestinian government by creating a range of inventories, which exemplify the promotion of collective Palestinian traditions and memories. The NGO Palestinian Academic Society for the Study of International Affairs (PASSIA 2013) suggested a documentation project of Palestinian folktales narrated in colloquial Palestinian-Arabic dialects in 2001. Palestinian storytelling, called *hikaye*, is a tradition practised by elderly women over centuries. Following the Convention for the Safeguarding of the Intangible Cultural Heritage (UNESCO 2003b), the *hikaye* was inscribed on UNESCO’s Representative List of the Intangible Cultural Heritage of Humanity in 2008. The above mentioned CCHP has been involved in a Euro-Med Heritage Programme called ‘Mediterranean Voices’ (taking place between 2002 and 2006), which included the documentation of people’s memories, photographs, songs and more (CCHP 2013, Research & Training, Euro-Med Heritage Programmes). Other memory-related documentation projects are affiliated with the *Nakba* – the catastrophe of 1948; these include collections of filmed testimonials of first generation Palestinian refugees (Nakba Archive 2010), as well as photographs and maps (Palestine Remembered 2012).

These documentation efforts contribute to the reconstruction of Palestinian society and the maintenance of social cohesion. They are especially important to preserve as intangible heritage is even more vulnerable than tangible heritage. When considering the

spatiality of Palestinian customs and memories, many of them do not naturally possess spatial traits, meaning that they would not be easily plotted on a map. The non-spatial character of some forms of intangible heritage could be a disadvantage when, for example, presenting cultural resources on a GIS map used for heritage management (as mentioned above) – or even for territorial negotiations between two parties. However, some of these difficulties could be overcome, as will be demonstrated in the final discussion chapter (Section 10.3.5).

The tendency to collect data that is relevant to present day Palestinian communities is also evident in Riwaq's project studying the water systems in the region of Artas and Jerusalem from the Roman period to modern times (see Section 5.4.5.2). Examining the data collected for the Cultural Landscape of Artas project, it is evident that much of it relates to present day life in the region, and includes lists of houses (mostly constructed in the 20<sup>th</sup> century), land use, modern roads, and information on water system features and installations. Much of this data was obtained from Awqaf documents dating to the 1930s and 1940s (British Mandate period) and other documents and spatial layers presenting data from the 1960s through the 1990s, e.g. average monthly rainfall, temperatures, humidity rates and water supply quantities. This information was integrated with archaeological data, especially relating to various features of water systems such as aqueducts, pools and cisterns. This data was studied and published in a book (Bargouth and Jaradat 2002) which included overviews and historical analyses mainly of Islamic periods (Early Islamic, Mamluk, Ottoman). These discussions are much more comprehensive than those in equivalent Israeli studies (e.g. Mazar 1975, 2002), and focuses on topics such as Islamic administration systems, agriculture, taxes and demographic changes. In addition, while Israeli studies on Roman period water systems in this region commonly refer at length to the Jewish Temple in Jerusalem and the conveyance of water for its operational needs, this specific research mentions it only once. It is thus clear that the emphasis of data collection and analysis in this case is on historical episodes which are more significant or interesting to contemporary Palestinians.

These trends observable in Palestinian inventory types, contents and analyses, greatly correlate with Scham's (2001) four models of the 'Archaeology of the Disenfranchised', which theorise approaches to archaeological and heritage practices among societies that are being silenced and suppressed (see Section 3.3.2). These models, previously applied to the Palestinian ways of practicing archaeology and managing cultural heritage (Section 4.4.3), could also be applied to Palestinian documentation and inventory-making. Scham's

suggested models – the ‘Archaeology of the Colonised’, ‘Heritage Pride’, ‘Heritage Recovery’ and ‘Reaction/Resistance’ models – are manifested in the creation and maintenance of inventories, since in many cases these relate specifically to a *Palestinian* heritage, history and collective past, aim to recover and reinforce their collective cultural identity, elicit pride in their past and present heritage, and encourage the urgent protection of what is left of tangible and intangible Palestinian heritage – the type of heritage that has been under-documented and marginalised by the West and by Israel. Some Palestinian inventories and documentation projects can be seen as a form of reaction to Israeli disregard and often rejection of the Palestinian version of history.

One example of an ‘archival’ reaction to Israeli occupation can be seen in the inventories created by PACE, which aimed to point out the impact of the occupation on West Bank archaeology (see Section 5.4.5.2). PACE’s data collection project was a preliminary assessment of the degrees of potential threats or direct impact of the Separation Barrier on archaeological sites. However, while this project’s major aim was to demonstrate the negative consequences of Israeli activities on local archaeological heritage, the examination of PACE’s collected data did not reveal any apparent bias or special interests. Another example of a Palestinian reaction/resistance to the dominance of the Israeli historical narrative is demonstrated in how the “Inventory of Cultural and Natural Heritage Sites of Potential Outstanding Universal Value in Palestine” (MoTA-DACH 2005; see Section 5.4.5.1) may be perceived by Palestinians. According to DACH, this inventory best reflects the diversity and universality of heritage in the West Bank and Gaza Strip. However, as Bshara sees it, this inventory is first and foremost a means of resistance to Israeli narratives of the past. In his view, the twenty archaeological sites chosen to be included in this inventory are “of national value before being of universal one because they oppose the Israeli narrative and create a new *subjective* historical stratification of Palestine” (Bshara 2007, 5; original emphasis). Bshara continues to explain how the creation of this inventory can be regarded as a ‘winning card’ in the cultural battle over the history of the region:

“... [These sites] reconstruct new historical narrative of Palestine. And suddenly one may come to the conclusion that Palestine, before the interruption of the Iron Age (Jewish tribes), was busy with life and culture. This detonates the Israeli narrative that builds on the fact that Palestine was a vacant place before its desert bloomed with the efforts of the “Chosen People”. This engagement in adopting a national, supra-national and



universal approaches towards Built Cultural Heritage and Landscape, the Palestinian *lieux de mémoire*, attained new dimensions it never meant to attain, that is *objectivity*" (*ibid.*; original emphasis).

However, as Bshara himself had stated earlier in his article, the promotion of an opposed narrative to that of the Jews is anything but objective. As demonstrated in this section, the Palestinians have their own priorities and interests; therefore they document what is deemed significant to them. Similar to Israeli practices, motivations for data collection and inventory creation inevitably dictate the final corpus of data.<sup>19</sup> The necessity to promote a Palestinian heritage, occasionally by countering Israeli versions of the past, is closely related to the pressing need to strengthen a collective Palestinian identity. In this sense, some aspects of Palestinian documentation are nationalistic by nature. This should not come as a surprise, as by protecting a marginalised heritage, the Palestinians are in fact protecting the concept of 'Palestinianness' as a distinct identity.

It is possible to establish a historical trajectory of Palestinian inventorial practices. Palestinian heritage organisations and the first department of archaeology, established in the 1970s and 1980s, marked the beginning of archaeological and cultural heritage data collection, with projects focusing on late Islamic periods and ethnoarchaeology, studying the continuity of past traditions and material culture into present-day living practices (see Section 4.4.3). The creation of databases and other documentation efforts on a much larger scale, which started immediately after the establishment of the Palestinian National Authority and its DACH in 1994, reflect other inventorial trends. Most inventories still reflect a 'Palestinian' heritage (such as the architectural databases and intangible heritage documentation), but, at the same time, some of them are targeted towards the documentation and presentation of a universal, global heritage, following UNESCO's lead. On the whole, and in contrary to the gradually stagnating Israeli data collection efforts, there seems to be a proliferation of Palestinian documentation projects, especially in the last decade. This reflects both the recognition in the importance of heritage documentation, and the ability to carry out such schemes.

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<sup>19</sup> The absence of a central Palestinian inventory covering excavations and/or surveys prevented an in-depth analysis of such activities. However, Taha's (2010) overview of the DACH's activities provided a short overview of Palestinian excavations since the establishment of DACH. Examining the excavated sites mentioned by Taha, no clear tendencies, patterns or special interests could be observed.

## 6.3 VARIOUS ASPECTS OF WEST BANK INVENTORIES

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The impact of research interests and heritage priorities on data collection and inventory-making is very significant, as demonstrated in the previous section. The aim of this section is to tackle additional aspects of documentation and data management – some of which are closely related to the ongoing conflict and political climate. Issues of accessibility to information, as well as data quality and reliability, are very important to be aware of in relation to West Bank inventories. Another important aspect to explore here is how the visualisation of West Bank data may introduce bias into GIS-generated maps and GIS use, and, as a result, may affect perceptions and understandings of the archaeological and cultural landscape.

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### 6.3.1 ACCESSIBILITY TO DATA

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Examining the types and levels of accessibility to archaeological and architectural inventories in the West Bank (see Section 5.4), it became evident that there is a significant difference in several aspects of accessibility between the official Israeli and Palestinian national inventories, created by DACH and SOA, and the two major inventories created by NGOs and academic institutions, i.e. Riwaq's registry and the WBEJAD. While the first two inventories are not publically accessible, the latter are widely available via academic publications and websites. The choice of language(s) for these inventories is another interesting aspect to examine as an important factor limiting or increasing accessibility to information. Thus, this section discusses the significance of various levels of accessibility to inventory information and their potential impact on heritage institutions and on the general public.

Access to archaeological data included in the DACH and SOA databases is not straightforward, and requires submitting a request to these governmental organisations. In theory, their data should be accessible to scholars and governmental institutions, and, as national organisations, they do have the general obligation to provide access to heritage and to heritage information (Shaheed 2011, Articles V(67), V(68)). As for my personal experience, this was true in the case of DACH's data, which I had no particular issues in obtaining. However, trying to receive data from the SOA was a very different experience, when it appeared that access to data was dependent on the good will of the Staff Officer

himself. In addition to these serious issues of 'gate-keeping' and lack of transparency, the SOA's data is currently available only in Hebrew, which limits its usability to almost Israelis alone, while excluding the international community and potential Palestinian scholars and professionals. In contrast, DACH's database has been constructed in English – a choice of language which increases the potential number of users from outside Palestine, and reflects the DACH's tendency towards international engagement. Nonetheless, it should be mentioned here that using the English language does not necessarily mean maximum inclusion, as some populations may not be able to understand it.

The inventories of Riwaq and WBEJAD take a very different approach to the issue of accessibility. One of the primary objectives of the WBEJAD was to make archaeological information as accessible as possible. For this reason, it was both disseminated as an academic publication and uploaded to a website, from which it could be freely downloaded. In addition, in order to increase its number of users, and therefore improve its accessibility, the WBEJAD was constructed in English. Since many of its sources were previously available solely in Hebrew, much material had to be translated for this purpose. Similarly, the academic publication of Riwaq's registry is also in English, demonstrating the targeting of the international academic community by Riwaq. However, the public-oriented online version of Riwaq's registry is currently available only in Arabic. This shows that, first and foremost, Riwaq regards its information as 'belonging' to the Palestinians inhabiting the recorded buildings or living in their vicinity (Riwaq 2011, About Registry, General Intro, Who Can Use the Riwaq). The engagement and appreciation of local communities of Riwaq's registry are evident on numerous pages of the website, where people used the given option to add their comments.

Both Riwaq and the WBEJAD aimed at a wide public outreach with their inventories. However, it was Riwaq which covered all bases by publishing their inventory both in English and Arabic, and by adapting the platforms of each language accordingly – the first as a physical publication and the latter as an online website. It seems reasonable not to include a Hebrew version to the data, as the inventory is mainly aimed at Palestinian stakeholders and their communities. Riwaq's registry is unique in the sense that it is used both as a heritage management tool and as a means of public outreach. According to the great number of comments left by different individuals on the Riwaq's registry website, it is clear that their public engagement is successful. Riwaq, therefore, managed to find an ideal balance between working with professional stakeholders, such as the government or municipalities, and making an immense contribution to the general public.

Riwaq's facilitation of access for the sake of local communities reflects their ideology of promoting awareness to Palestinian heritage, and of including the Palestinian public in the inventorying of their own heritage – and by that enhancing their personal, social and political power. Riwaq's registry can be seen as another milestone in the formation and reinforcement of a unique Palestinian identity – not only by collecting and managing architectural data, but also by providing full access to it. The creation of the WBEJAD as a fully accessible inventory also recognised the Palestinians being in a weaker position than their Israeli colleagues, who have been enjoying easier access to archaeological information. The provision of all available information regarding Israeli activities in the West Bank may thus be seen as a step towards amending the imbalance of accessibility to data and closing the information gap between both sides. It may also be seen as an act against the impact of political and ideological agendas on Israeli archaeological conduct – by exposing this impact and promoting awareness to it. The creation of the WBEJAD was viewed, essentially, as the obligation and responsibility of the Israeli archaeological community not only towards itself and the international scholarly community, but also towards the Palestinians.

As previously discussed, there are positive and negative implications for granting full, partial or no access to archaeological digital data (see Section 3.3.5). Both Riwaq and the WBEJAD fully provide their records, which has some clear advantages such as better research encouraged by increased usability of data, more collaboration opportunities and a better public engagement. With regards to the WBEJAD, a maximal facilitation of access for the benefit of negotiators and decision-makers was also deemed important, so that “negotiations can proceed in a productive manner” (Dodd and Boytner 2010, 10). In addition, high exposure to the WBEJAD's data allows for the archaeological community to spot mistakes in this inventory and have its creators fix them; this important feedback increases the inventory's accuracy and quality of data.

There is, however, a potential negative aspect of facilitating access to exact locations of archaeological sites – and that is the risk of assisting looters to locate sites for robbery. In this respect, the WBEJAD has already been criticised by Palumbo (2012, 28-29), who also denounced the publication of the WBEJAD going forward without consultation with Palestinian heritage specialists. However, it could be argued that, in a small and relatively densely populated region such as the West Bank, local looters know their environment well enough, and are not in need of digital archaeological inventories. This may be the

viewpoint of the IAA as well, which manages an online website of its archaeological surveys, including exact site coordinates and their plotting on maps (IAA Surveys 2013). The risk of revealing site locations to looters does not exist with formal inventories such as those of DACH and SOA, as their data is not publically available. On the other hand, having no access or only partial access to data, as in the case of SOA, may negatively impact academic research and public awareness. The SOA's restricted access to data and its mounding difficulties for scholars are in accordance with their general conduct in the West Bank – assuming control over the archaeological record and at the same time lacking transparency.

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### 6.3.2 RELIABILITY AND ACCURACY

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A crucial issue for inventory users to be aware of is the inventory's reliability and the accuracy of its data; these may vary greatly due to various reasons. Constraints such as time, budget and expertise may affect the methodology of data collection and inventory creation, and may restrict data validation. In the case of West Bank inventories, it could be observed that one of the main factors determining an inventory's level of accuracy is its sources of information.

One significant difference between several inventories is their data sources. The four major inventories differ in the ways they obtained data: while the WBEJAD and DACH database used outside sources (i.e. collating 'inventories' created by others), Riwaq collected all of its data on its own, using questionnaires and fieldwork. SOA's database combined fieldwork-collected data and a few other (currently unknown) sources. The use of external sources, e.g. survey publications, historical accounts, excavation reports or administrative documents, exposes inventories to inaccuracies, biases and other types of data 'distortions' which may be inherent to these sources. For example, as the WBEJAD collected data from Israeli sources alone, it ultimately reflects Israeli archaeological interests in the region, as previously demonstrated. The quality of its data is not only dependent on the quality of academically published surveys or excavations, but also on administrative lists used by the SOA, the IAA, and Israeli universities, which convey frequent inaccuracies, contradictory information and missing data.

The DACH database, currently relying on the outdated British surveys, also suffers from inaccuracies inherent to these surveys. In his survey and assessment of ancient cisterns in the West Bank, Koelbel (2009) discovered a significant gap between recorded cisterns as they appeared on the British maps, and reality on the ground. Very often, cisterns observed in the course of his survey were not displayed on these maps, even though they clearly existed during the time that the British surveys took place; out of 83 surveyed cisterns, only 19 were previously known from the British Mandate maps (*ibid.*, 8). There is no clear methodology as for what the British surveyors intended to document and what scope of documentation they aspired for. In the case of water cisterns, Koelbel made the assumption that they mapped mainly public cisterns, and did not aim for completeness (*ibid.*). DACH's current reliance on data originating from British surveys alone also results in recurring errors appearing in Palestinian academic literature, indicating a largely misguided number of 12,000 archaeological sites in the West Bank (e.g. Taha 2005a, 69; Rjoob 2009, 215; Yahya 2009, 1-2; Al-Houdalieh 2010, 32; 2012, 23). Riwaq's registry, on the other hand, documented all traditional buildings on its own, using more or less the same methodology – and did not gather its data from other sources. As a result, this inventory offers more consistency in its records than others.

Thus, the degree of reliability of different inventories is largely determined by the accuracy of their sources – in addition to their own construction methodology. Moreover, current inventories are updated to varying extents. The DACH database may be going through verification processes via field surveys (see Section 5.4.1), and it could also be assumed that the SOA's database is regularly updated via fieldwork. The WBEJAD, on the other hand, which collected information mostly from published surveys and excavations, has its records updated until the end of 2007 – and its data has not been verified through site visits. It is, therefore, necessary to assess the reliability of inventories. This issue will be examined in the next chapter, where the results of a field survey assessment of the WBEJAD, DACH and SOA's data will be discussed.

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### 6.3.3 CONFLICT, POLITICS AND INVENTORIES

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Data collection, documentation and the creation of West Bank inventories have been greatly influenced by the political situation and ongoing conflict in the region. In addition to certain types of data collected or neglected due to conflicting interests, as discussed in

Section 6.2, the political climate has further implications on survey coverage, documentation scope – and even the nature of inventories created by Israelis and Palestinians.

The fact that many – if not all archaeological surveys compromised their coverage due to the political tension and security limitations, is well reflected in surveys digitised for the WBEJAD. Many Israeli surveyors avoided entering dense Arab populations as well as walking into military zones. The survey of the Hill Country of Benjamin, for example, did not cover all of its areas and could not document all archaeological sites. In Finkelstein's survey area, some Arab villages and previously known sites – some of which were located in military zones – were not visited during the survey. Later attempts were made to visit those villages, but “the situation on the ground prevented this” (Finkelstein 1993, 22; own translation). The political conflict influenced the Southern Samaria survey as well, which ended with the first Palestinian uprising (*intifada*) in 1987, when “growing political tensions prevented the conclusion of the work in the field” (Finkelstein and Lederman 1997b, 1).

The political situation and the fragmented areas of jurisdiction also influenced Zertal's survey. His large-scale survey, which started in the late 1970s, was affected by the outcomes of the Oslo Accords – when parts of his survey area were transferred to the Palestinian Authority. As a result, “the working conditions there haven't always been clear: these areas are more difficult to work in” (Zertal and Mirkam 2000, 12; own translation). These difficulties were enhanced at times of Palestinian uprisings and armed conflicts. As testified by Zertal:

“The peaceful Arab villages in the Samaria region, where we were accepted with full hospitality, have now become hostile, military posts. No free movement of people or goods is possible, and any archaeological work is out of question under these conditions” (Zertal 2004, 6).

But even during peaceful times, some sites could not be properly examined and recorded. For example, an Intermediate Bronze Age site was not sufficiently researched because the surveyors were concerned about the existence of landmines in the area (Zertal 2005, 60); and for another site of the same period, a full site plan could not be drawn due to security reasons (*ibid.*, 61). However, there is at least one exception where Israeli surveyors actually took advantage of the presence of the Israeli military, when surveyors went into

the Palestinian town of Halhul to survey its archaeological remains during an imposed curfew on its residents (Greenberg and Keinan 2009, 28; pers. comm.)

Naturally, it was not only the Israeli surveyors who suffered from political tensions and restricted movements. Palestinian surveyors documenting structures for the Riwaq registry were also negatively influenced by the political situation:

“The field surveys were conducted during difficult political conditions. A particularly acute period was from 2001 onwards, which was when we organized and edited the material in preparation for publication. During this period, researchers and supervisors were denied freedom of movement between populated centers. This in turn affected the completion of photography, documentation, and the fact checking. Inevitably this affected the accuracy and comprehensiveness of the information collected” (Riwaq 2011, About Registry, Technical Intro, General Problems).

The result of coverage compromises decided upon due to political tensions was that almost 10% of existing historical buildings could not be documented. It is evident, then, that limitations caused by the ongoing conflict affected documentation, and in turn, the final inventory. In addition to the above mentioned implications on documentation in the course of fieldwork, there is another interesting implication of Israeli-Palestinian interactions on the naming of archaeological sites by Israeli surveyors. Original names of sites included in the WBEJAD could frequently be traced in previous surveys or maps, while at other times sites were named after a geographic feature, by a descriptive term (e.g. “Cave”), triangulation points or spot-heights. In numerous cases, when surveyors could not obtain a site’s name from previous surveys, they had to consult with local inhabitants. The approach of Israeli surveyors towards names supplied by the local Palestinian residents greatly varied – from positive confidence to utter distrust.

In Ofer’s survey of the Judean Hills, for example, traditional site names provided by locals were actually preferred over modern names (Ofer 1993, 2:146). In other surveys, Arabic names used by locals were also consistently treated as viable site names (Hirschfeld 1985, 1; Zertal 2004, 17). At other times, locally supplied names were selectively chosen to be included (Finkelstein 1997, 16) or were documented in quotation marks (Kochavi 1972a, 14). In the publication of the Benjamin survey, local names were rarely included, “due to the danger that the name was distorted” (Finkelstein in Finkelstein and Magen 1993, 10\*).



In many cases, when earlier site names could not be acquired, archaeological sites were published unnamed. This phenomenon of published archaeological sites without names in Israeli surveys was referred to by Glock, giving an example from Israel proper – the survey of the Map of ‘Atlit (Ronen and Olami 1978):

“Amazingly, 110 of the 145 sites have no names. I say “amazingly” because Arabs have a name for every plot of land, hill, spring, and any unusual feature on the landscape. These toponymics are often part of the local oral tradition not found on published maps. In Palestine, the oral tradition has gone with the expelled native population” (Glock 1994, 81)

Since much local knowledge about places in the West Bank had disappeared with the Palestinian refugees in 1948, Israel’s naming or re-naming places – or not naming them at all – reflect its political power. The re-naming of places by archaeologists can be seen as part of a larger phenomenon – map-making by Israeli geographers before but mostly after the establishment of the State in 1948, when several committees replaced old Arabic names with new, Hebrew and Jewish-related names of settlements and geographic features (Benvenisti 2000). As there is almost no institutional interaction between Israel and Palestine, Israeli documentation suffers from the lack of local knowledge about sites – which is ultimately evident in its inventories. The SOA’s database, for example, includes 573 sites with no names –comprising about 40% of all its sites (demarcated by points). The WBEJAD’s list of surveyed sites features 927 sites with no name, which are 15% of all surveyed sites documented in this inventory.<sup>20</sup> Many other sites received arbitrary names, in the lack of actual ones.<sup>21</sup>

The general political climate in the West Bank is also manifested in the nature of the four major Israeli and Palestinian inventories, as well as in many of the smaller scale ones: while Palestinian inventories are, to a great extent, oriented towards cultural heritage management, Israeli inventories are generally more focused on academic research. Since the Oslo Accords, when the Palestinians could officially start the process of nation

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<sup>20</sup> However, it should be mentioned that many of these records are parts of larger ‘sites’, such as segments of Roman roads, one or more field towers which are part of a larger area of field towers, pottery scatter, a Roman milestone, etc. Having said that, many other records do actually represent unique sites.

<sup>21</sup> Trying to compare these ratios to DACH’s data seemed impracticable. DACH’s Jericho data featured 32% sites without names, while its Gush Etzion data featured as much as 52% sites without names. However, it is very plausible that these high rates of unknown names are a direct result of DACH’s database being largely incomplete, and relying on British data alone.

building, many heritage NGOs were established with the aim of promoting and protecting cultural heritage. This aim is manifested in data collection as well, as exemplified by documentation projects of NGOs such as Riwaq, PACE and CCHP. The general objectives of their inventories are to protect and manage historic and archaeological sites, as well as assist in urban planning and tourism. The Palestinian governmental inventories are also focused on heritage management, as is witnessed by DACH's "Inventory of Cultural and Natural Heritage Sites of Potential Outstanding Universal Value in Palestine", and by the future plans for its major database. The proposed structure of DACH's future database reflects its potential use as a heritage management tool since it will include information such as sites' condition, levels and causes of destruction, current state of conservation and requirements, as well as an assessment of sites' significance, important for future development for tourism or plans of presentation to the public (see Table 5.2). This inventory's strategy reflects the priority of the Palestinian Ministry of Culture to promote heritage management in the West Bank. In this respect, the successful nomination of the Church of Nativity as the first Palestinian World Heritage Site (see Section 5.4.5.2) is considered by many as a victory not only for Palestinian cultural heritage, but also as a highly significant act of worldwide recognition of the Palestinian people and their sovereignty over the region (The Associated Press 2012).

Israeli inventories, on the other hand, are more academic in nature and less used for heritage management purposes. Even the SOA's database is probably used mostly for preventative measures, such as to identify sites threatened by construction works (e.g. roads, settlements, the Separation Barrier, etc). Israeli documentation deriving from academic frameworks (such as doctoral dissertations), which has been greatly declining in the last decade or so, is focused less on heritage management and more on archaeological research. Also the WBEJAD was not designed as a heritage management tool, as its structure does not include fields stating sites' condition, risks and threats, accessibility, tourism potential, management plans, etc. Instead, its objectives were to facilitate future negotiations towards the potential establishment of a Palestinian state. In this case as well, the creation of an inventory reflects the political climate in Israel/Palestine. Moreover, these different approaches to inventory creation also reflect the gap between academic and heritage management values (see Section 2.2), and, as discussed in this section, the specific political context in the region has had a crucial effect on each side's development of cultural heritage management strategies and academic agendas.

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### 6.3.4 GIS

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All four major West Bank inventories are GIS-oriented, as demonstrated in Section 5.4. This section discusses the ways in which GIS use in conjunction with West Bank inventories may introduce some forms of bias into the understanding of the archaeological landscape. Due to lacking knowledge of exactly how GIS is being used by the DACH, SOA and Riwaq, this discussion is bound to be limited and rather generalised. It could be assumed, however, that in all four major cases GIS is used for data visualisation, and at least to some extent for the purpose of data management. Following the general overview of GIS (presented in Section 5.3), it seems that West Bank GI systems are being used in a common, 'traditional' way, and incorporate ancillary spatial layers such as modern roads, water-courses, towns and villages, topography, etc<sup>22</sup>. As previously mentioned (Section 3.3.4), bias could be introduced into GIS use in various ways. Since the presentation and visualisation of data cannot reflect an objective reality, GIS-generated maps frequently display 'distorted' information, which may influence the data visualisation and understanding, as well as potential spatial analyses.

The examination of all WBEJAD sites as they are plotted on a GIS map quickly reveals the problematic nature of the inclusion of multiple surveys, which use diverse definitions of an archaeological 'site' (see Section 3.3.3). Some types of archaeological remains such as single caves, tombs, agricultural installations and isolated structures were sometimes treated by surveyors as separate sites, and at other times they were lumped together with the closest major site (e.g. Finkelstein 1997, 12). In the case of Ofer's survey of the Land of Judah, for example, if there were tombs or a cemetery close to a settlement, they were considered as one site; if the tombs were of a different period than the nearby settlement, or were not close to any settlement, they were recorded separately (Ofer 1993, 2:149). Inconsistencies in the conceptualisation of what a site is ultimately lead to inconsistent site distributions and skewed GIS maps. This is probably best demonstrated in the region of south-western Judea, when comparing the distribution of Amazy'a's surveyed sites (Dagan 2006a, 2006b) to their adjacent Judah's sites (Ofer 1993; Fig. 6.4).

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<sup>22</sup> On a side note, it was noted that all four major inventories use ESRI ArcGIS shapefiles. This popular data format is generally interoperable, and can be opened and used in other commercial and free GIS software.

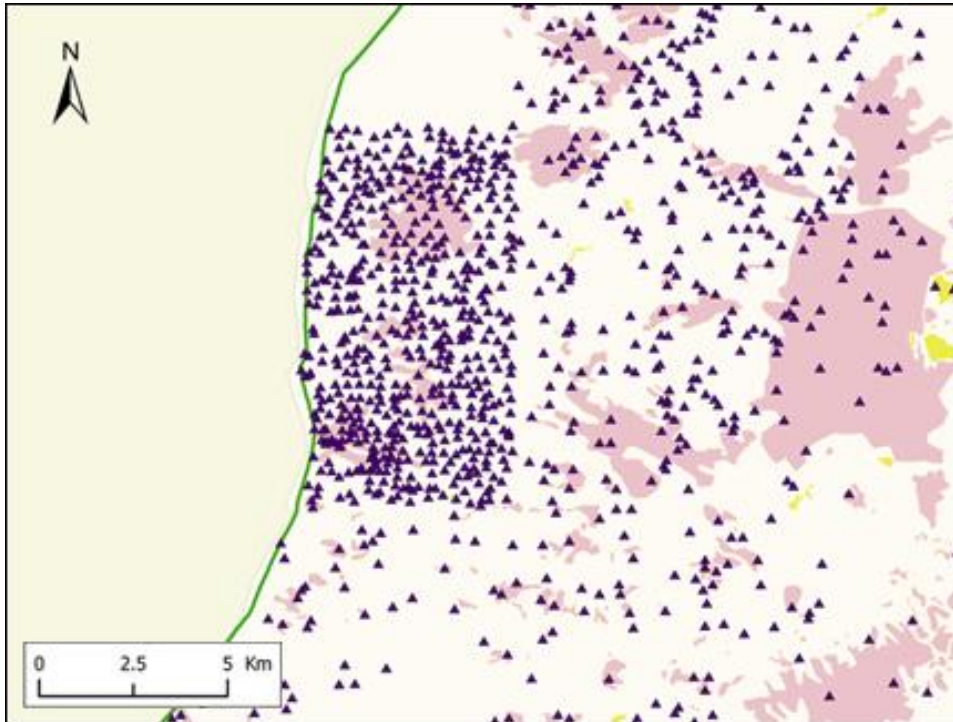


Fig. 6.4: Skewed site densities in south-western Judea: Dagan's survey is on the left, and Ofer's survey is to its right; after Greenberg and Keinan 2009, 14 fig. 6.

The choice of site definition has an impact on how inventory records are being quantified, and is therefore an essential issue to consider in the context of inventory-making. It is very plausible that, if DACH implements its future plan to enhance its database with many diverse archaeological and historical sources, the problem of discrepancies between site definitions may occur in that database as well. In case of SOA's database, as far as could be observed, it was not affected by the rather peculiar site definition indicated in SOA's official document: "An archaeological site is defined by any item used or created in the past that *has historical relevance for us today*. It can be anything from a fossil to a fortress" (Civil Administration 2011, 12; own emphasis). It is also important to keep in mind that areas featuring dense distributions of archaeological sites are not necessarily more important than areas with fewer sites, as a given number of sites does not necessarily reflect the level of significance of an archaeological landscape. If taking the map presented in Fig. 6.4 as an example, it is clear that the western area cannot be considered more significant than Hebron's area to its east.

The definition of a site's boundaries in the field risks subjectivity as well (see Section 3.3.4). The demarcation of sites using GPS, commonly by walking around them in order to capture their size and shape, is translated into polygons when displayed on a GIS platform;

however, precise-looking polygons may not represent reality adequately. In the case of SOA's polygons, decisions made in the process of site demarcation remain unknown. It is unclear, for example, whether they generally include a safety 'buffer zone' around the perimeter of sites in order to ensure the protection of sites in case of nearby construction or development (this issue will be further examined in the next chapter). Unlike archaeological inventories incorporated into GIS platforms, Riwaq's architectural data does not face similar problems of site definition, as it is easier to define a structure as a recording unit, rather than an archaeological site, much of which remains underground and thus invisible. However, the demarcation of boundaries of historic buildings has its own challenges, especially in relation to the identification of internal and external spaces associated with the recorded building. Such could be, for example, underground structural foundations or spaces, or the building's curtilage and gardens. Additional challenges may relate to temporal change of a building's defined boundaries – as these do not necessarily remain the same since the time of its construction. Despite these potential issues, the definition of historic buildings is more straight forward than archaeological sites, and therefore, in the case of Riwaq's GIS data, polygons defining traditional structures are likely to represent inventory records fairly accurately – and there is much less risk of inaccurate site boundaries (e.g. Fig. 6.5).



Fig. 6.5: Riwaq's polygons of structures in Jericho, projected on a satellite image. Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

Another way in which inventory data can distort GIS-generated maps is when this data includes surveys featuring different levels of coverage. Numerous surveys covering areas in the West Bank at different degrees are included in the WBEJAD (see Fig. 5.5) – some of these are partial surveys by definition, while others were limited by security constraints and other difficulties. Moreover, some surveyed areas of the West Bank were never



published, and therefore could not be digitised for the WBEJAD. Fig. 6.6 displays all digitised surveyed sites included in the WBEJAD, demonstrating different site densities as well as some archaeological “dead zones” caused by the lack of data. In addition, inaccurate site locations also have their share in contributing to skewed GIS maps. Data originating from surveys conducted prior to the use of GPS, such as those included in the WBEJAD, and especially British surveys’ data included in DACH’s database, may result in misleading maps (this issue will be further explored and exemplified in the next chapter). It is thus clear that various levels of survey coverage, in addition to different site definitions and varying accuracies of site locations, have a significant impact on GIS-generated maps – which inevitably distort the way that the archaeological landscape is perceived by map viewers or GIS users (for an example of how to rectify such distortions, see Section 10.3.4).

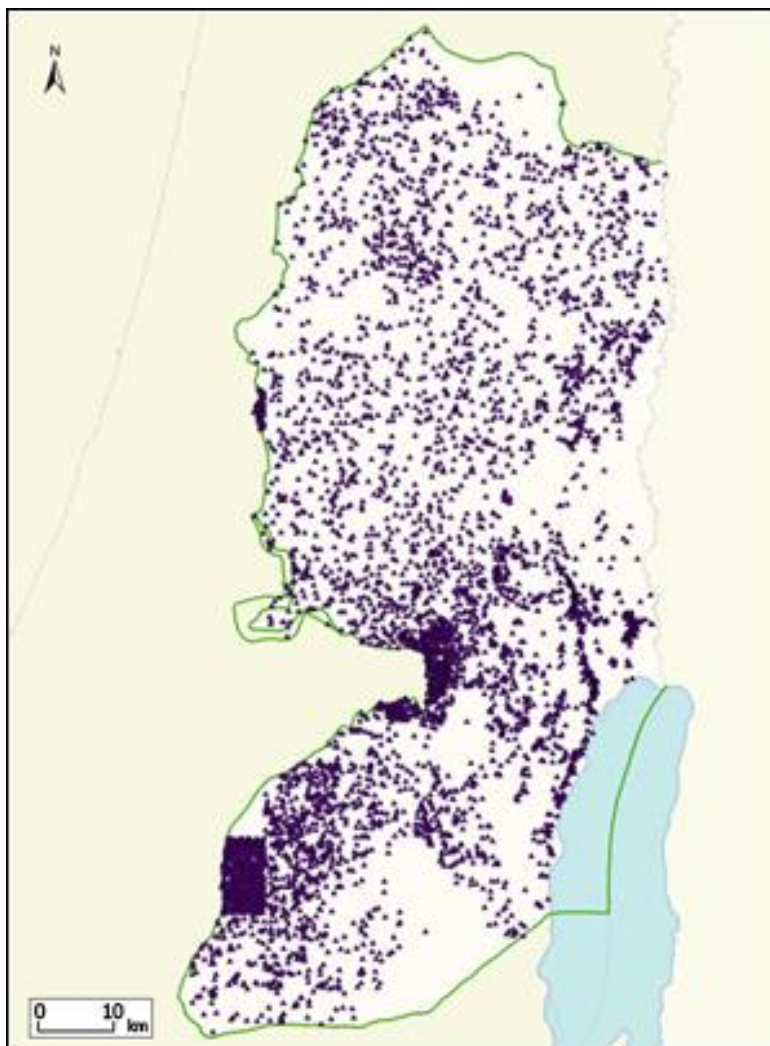


Fig. 6.6: All records of surveyed sites included in the WBEJAD; after Greenberg and Keinan 2009, 5 fig. 2.

Another factor of bias that should be mentioned here is related to specific interests of archaeologists, as discussed in Section 6.2. By surveying, excavating and interpreting archaeological remains, archaeologists contribute their input to narratives of popular understanding of landscapes. Taking all available information and presenting it on a map is in fact constructing a cultural cognitive map. Resulted maps actually display points of significance – and not an objective image of the archaeological landscape. Anyone exposed to this kind of maps can blindly believe that they reflect reality, and not someone’s idea of what is important to represent. Such is the case, for example, when looking at a distribution map of churches and mosques generated from the WBEJAD (Fig. 6.7). The proliferation of churches reflects intense interest and research of early Christianity remains by Israeli archaeologists, while the documented mosques represent only part of the actual number of mosques existing in the West Bank.

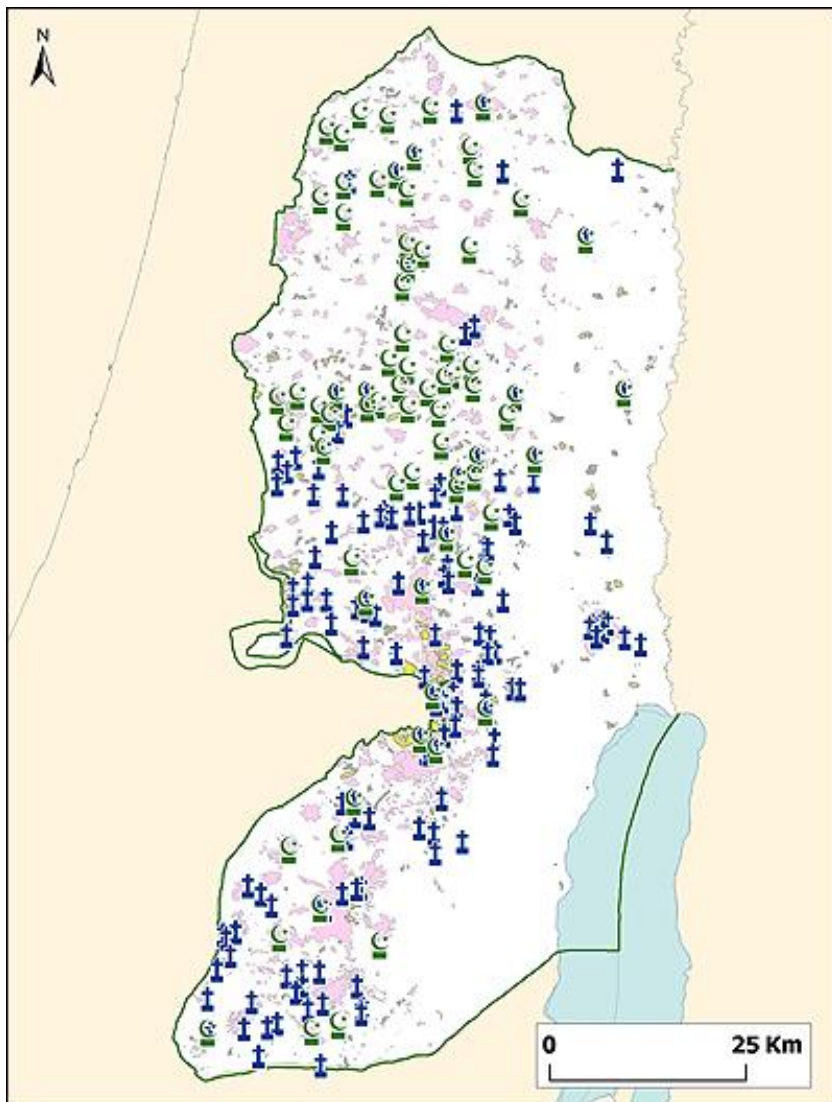


Fig. 6.7: Distribution of churches and mosques listed on the WBEJAD.

Lastly, with the assumption that the four major inventories use GIS in a similar way, the issue of ‘environmental determinism’ (see Section 3.3.4) should be addressed here. West Bank archaeological and architectural data is generally represented within its spatial-geographical environment, following a natural tendency of GIS use. This way of displaying and understanding a cultural landscape is lacking its ‘sense of place’ – personal perceptions, memories and experiences. This approach to the research of archaeological data is exemplified in both WBEJAD’s publications, proposing case studies which make use of water-courses, precipitation isohyets and topography in order to learn about the relationships between sites and their environment (Greenberg and Keinan 2007, 40-41; 2009, 26-27). Environmental maps displaying sites within their spatial surroundings inevitably simplify the complexities of archaeological-historical landscapes, while neglecting dimensions of social meaning and ‘sense of place’. This way of using GIS transforms the cultural landscape into a “manageable and understandable form, representing the world from the top down, with symbols, lines and polygons representing our heritage data” (Fitzjohn 2009, 238). However, as in the case of GIS use in the West Bank, it lacks other aspects which may be very significant to the management of cultural heritage.

## 6.4 SUMMARY

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Archaeological heritage, as well as other types of heritage, represent one means through which communities in Israel/Palestine relate to their past, and therefore to their cultural, religious and/or national identities. The creation and maintenance of collective identities on both sides have had a significant impact on Israeli and Palestinian research interests and the set of values they wish to promote. This chapter demonstrated how those clashing identities affected data collection and the creation of inventories, and how different values, research interests and heritage management priorities could be traced in those inventories. It could also be observed how the imbalance in Israeli and Palestinian power relations is reflected by the types of data chosen to be collected. Other aspects of documentation, inventory-making and GIS use were also covered in this chapter; these included a discussion on levels of accessibility; accuracy and reliability of data stored in inventories; the impact of the unique political settings of the region on documentation and inventory-making; and the ways in which GIS-generated maps of West Bank sites could be ‘distorted’. The analysis of archaeological and architectural inventories in the West Bank



presented in this chapter forms a solid base for the following case studies, which look in more depth into different inventorial issues. The results of this chapter's analysis, in conjunction with conclusions drawn from both case studies, will help create a broad picture of the nature of current West Bank inventories, and how these could be improved for a better understanding and management of cultural heritage in the region.

## CHAPTER 7. GUSH ETZION CASE STUDY

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### 7.1 INTRODUCTION

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This chapter presents and discusses a re-assessment of the scope, priorities and coverage of existing datasets, via both database comparison and on-the-ground re-survey of all accessible known sites in one area of the West Bank, Gush Etzion. The main goal of this survey was to assess the current inventories that list archaeological sites in the area of Gush Etzion, an area which brings together an interesting range of archaeological and geographical issues that result directly from the Israeli-Palestinian conflict (see below). This assessment, targeting known sites, included verification of whether listed sites continued to exist and examination of the accuracy of recorded site locations (grid references), and how reliably features were expressed as point data, lines or polygons. Another goal was to re-examine listed archaeological sites, particularly with respect to their modern context (urban area, open area, private land, inside a Jewish or Palestinian settlement, close to the Separation Barrier, etc), accessibility, current condition and potential threats to them. Contributing this additional data to the information contained in existing databases, in particular with new assessments of site condition, interventions (such as signage) or measures of protection, demarcation by polygons, new photos, etc., offers a critical perspective on how inventories are being used now, and how their structure and contents can be updated and improved for the benefit of decision-makers.

The area of Gush Etzion was chosen as a representative case study for the West Bank, by virtue of its diverse range of archaeological sites, different environmental contexts and different areas of modern jurisdiction. This area includes archaeological sites of different types and periods, located on hilltops or in valleys; sites inside Israeli settlements (Area C), Palestinian villages (Area B), open areas and urban areas; and sites that are located by the Separation Barrier or its planned route. Another reason for choosing this area was a desire for a near continuous survey coverage – Gush Etzion excludes areas of full Palestinian control (Area A), which were inaccessible to me, as an Israeli archaeologist, by current Israeli law.

Gush Etzion is situated between Bethlehem and Hebron, south of Jerusalem and east of

Valley of Elah, and includes a cluster of Jewish settlements and Palestinian villages in an area of 72 km<sup>2</sup> (Fig. 7.1)<sup>23</sup>. The historical boundaries of Gush Etzion (literally Etzion Bloc or Etzion Settlement Bloc) include a group of Jewish settlements that had been established since the late 1920s, destroyed during the 1948 Arab-Israeli war, and re-established, along with new Jewish settlements, after the Israeli occupation of the West Bank in 1967 (Kats 1998). Today, the area is inhabited by *ca.* 100,000 residents – most of which are Jewish settlers (generally Orthodox or religious Zionists), and the rest are Palestinians, with a Muslim majority. Due to its proximity to Jerusalem and to Israel proper, the area includes Israeli checkpoints and is fenced on the western and northern sides. Furthermore, the Separation Barrier being built on part of its eastern side separates it from the Palestinian territories of Bethlehem, Beit Jala, Beit Sahour, al-Khadr and Artas. There is no visible boundary on the southern part of Gush Etzion, but the Separation Barrier is scheduled to be built there at some point (Arieli 2012).

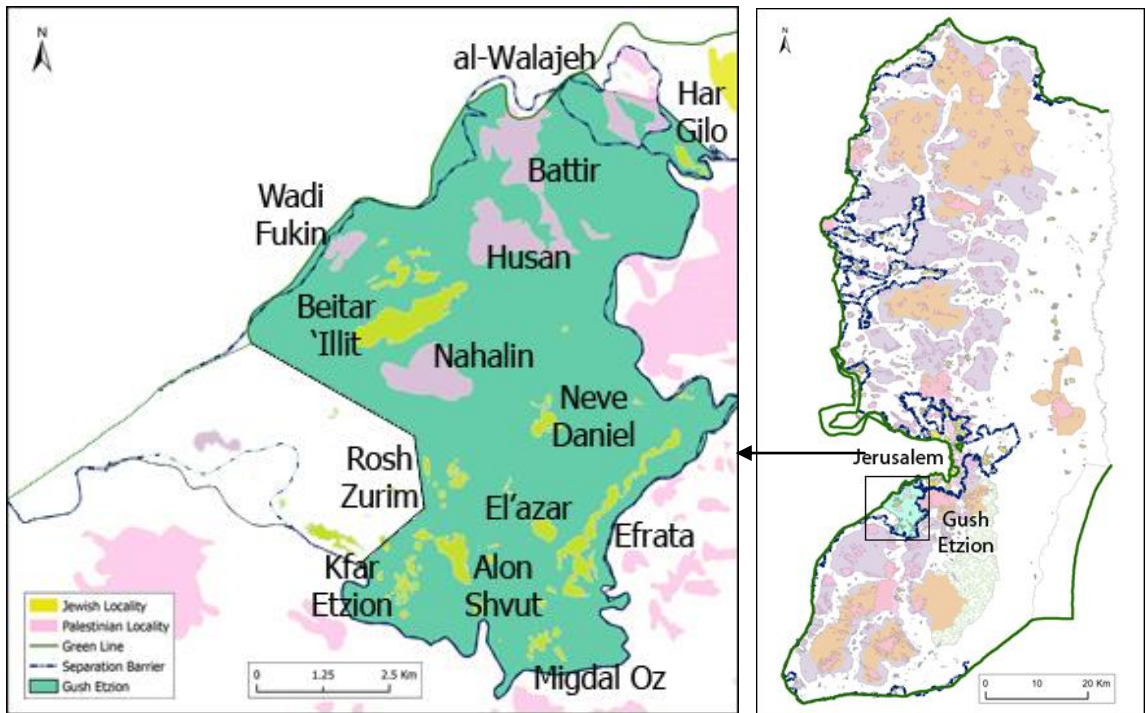


Fig. 7.1: Gush Etzion, and the geographical scope of the survey (green area).

<sup>23</sup> The Gush Etzion Regional Council also includes a few distant and isolated settlements (such as Noqdim and Tequa), which are not considered in this case study.

## 7.2 METHODOLOGY

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### 7.2.1 GENERAL

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Multiple databases and GIS datasets were examined in this survey (Fig. 7.2). These include the following:

1. The West Bank and East Jerusalem Archaeological Database (WBEJAD; see Section 5.4.4), which includes sites surveyed and excavated by Israel between 1967 and 2007. Surveyed sites were collated from the Emergency Survey (Kochavi 1972a), Ofer's survey of the Judean mountains (Ofer 1993), the survey of Nes Harim (Weiss *et al.* 2004), Dagan's survey of the Map of Şureif (Dagan n.d.), and one site surveyed by Kloner during his extensive survey of Jerusalem (Kloner 2000). Excavating institutions include the SOA, Tel Aviv University, and Hebrew University in Jerusalem.
2. GIS datasets of archaeological sites recorded by the SOA in the West Bank (see Section 5.4.3). These include point, line and polygon layers of sites.
3. A segment of the Palestinian DACH database (see Section 5.4.1), including archaeological sites and features in Gush Etzion. These sites were digitised from the Survey of Western Palestine (Conder and Kitchener 1881-1883) and the British Mandate survey and maps published in 1944 (Government of Palestine 1944). The area had not been surveyed or excavated by DACH therefore there are no relevant updated Palestinian records for it.

All of these databases use the same coordinate system – the Palestine Grid (1923), also known as the Old Israel Grid. The area chosen for survey was geographically defined by the Green Line and the Separation Barrier (its built and planned route). A list of all sites falling within this defined area was created and organised prior to the survey. In addition, numerous sites located immediately outside the boundaries of the defined area (within a maximum distance of 300 metres away from the Separation Barrier or its planned route) were also included in this survey for control purposes. The main aim of including the latter was to examine whether there is any difference in the nature of archaeological sites, when located within the defined area of this survey (i.e. in Gush Etzion), or when located on the other side of its boundary. All sites were then grouped into sub-zones to facilitate the practical implementation of the field survey. Maps and satellite imagery were then prepared for each sub-zone. Additional maps used for the survey were: (1) British Mandate maps (1944), scale 1:20,000; (2) a modern road map, scale 1:50,000; (3) several

maps, scale 1:25,000, downloaded from the Israel Mapping Centre's (Survey of Israel) website of topographical maps and hiking tracks (Amud Anan 2013); (4) updated map (March 2010) of the Separation Barrier in the West Bank, downloaded from Geneva Initiative website (Geneva Initiative 2012), indicating where the fence has already been built, where it is planned on being built, and where are the changes of its route. Navigation in the field was partly via handheld GPS.

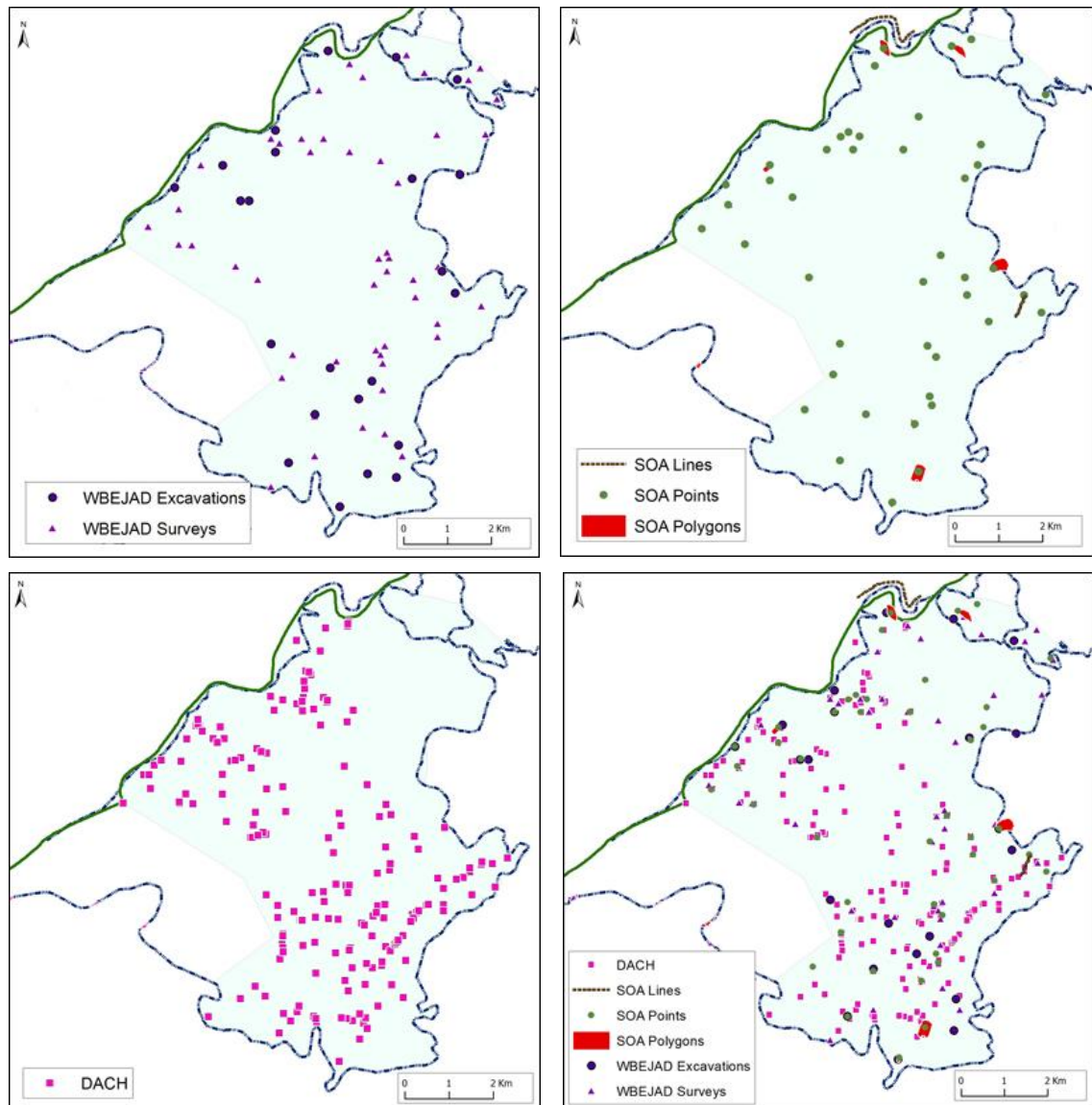


Fig. 7.2: Site distributions in the survey area, originating in different databases: WBEJAD (top left), SOA (top right), DACH (bottom left), and all three (bottom right).

Prior to the survey, each archaeological site had a file prepared for it, which included all published materials (either from survey publications or excavation reports), including sketches and photos. This made use of the list of bibliographic references published along with the WBEJAD database (Greenberg and Keinan 2009, 151-172) and was done in order

to have an accurate idea in advance of when and how the site had been recorded, as well as its appearance and condition at the time of the recording. In addition, and when available, SOA boundary polygons (GIS layer) and satellite imagery were also added to each file. The satellite images were received as orthophotos from the S. Daniel Abraham Center for Middle East Peace, but there are other potential sources for aerial and satellite imagery, such as governmental agencies (e.g. the Survey of Israel), private companies (e.g. Ofek Aerial Photo), and even Google Earth, for lower resolution imagery.

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## 7.2.2 FIELDWORK

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The survey was conducted during July 2010 by myself and the archaeologist Gideon Solimany. Ra'ed el-Amar, a resident of the village Battir, joined us when going into and surveying in the vicinity of Palestinian villages. We did not aim for complete coverage via a systematic survey method, but focused on visiting previously recorded sites. For each archaeological site visited, we adopted the following procedure: (1) record GPS coordinates for the main part of the site (preferably walking around the site, creating a polygon of its perceived area and shape; coordinates were recorded in Old Israel Grid), and point data for each feature (e.g. a cave, spring, cistern, installation, etc); (2) take photographs of each feature and general photos of the site; (3) record the site's current context, condition, accessibility, main components and any other comment that may be relevant for the understanding of the site.

As in any archaeological fieldwork, the scope, level and methods of recording (ICOMOS 1996, Planning for Recording, Article 2) were decided upon, taking into consideration budget limitations and timeframe. The main requirement was a primary survey of existing sites for comparison with existing databases. The timeframe was one month, and budget provided for two archaeologists to work full-time during this month. The survey included a primary examination of the archaeological sites in most of the area of Gush Etzion, with the priority of visiting as many sites as possible for a better understanding of the archaeological reality in this area. Archaeological sites were recorded, GPS coordinates and photographs were taken, but no measurements or sketches were made due to these constraints.

Due to the short timeframe, and in order to visit as many sites as possible, Riwaq data of

traditional buildings was not included in this survey. While the comparison of purely archaeological sites could be very meaningful, the omission of Riwaq's data from this assessment may deny this case study some interesting results. For example, it would be interesting to note if and which historical buildings, recorded in Riwaq's registry, were documented in other databases as well – and which were not; it would also be interesting to examine whether Riwaq had omitted any historical buildings from its registry, which are included in other databases (e.g. buildings close to or within Jewish settlements).

The geographical extent of the survey was 58 km<sup>2</sup> (see Fig. 7.1) out of the total area of Gush Etzion of 72 km<sup>2</sup>. The settlements that were visited included the Israeli settlements Alon Shvut, Beitar 'Illit, Efrata, El'azar, Har Gilo, Kfar Etzion, Migdal Oz, Neve Daniel, Rosh Zurim and the outposts Giv'at HaDagan, Giv'at HaHish, Giv'at HaTamar and Sde Boaz; and the Palestinian villages Battir, Husan, Nahalin, Wadi Fuqin, Beit Zakariya, al-Balutta and al-Walajeh. In addition, a few sites outside this area were visited for potential comparison.

For each site, GPS coordinates and different information were recorded, and photographs were taken. GPS points were taken at each site using a handheld device (Magellan SporTrak) with an estimated positional error of typically  $\pm 3$  metres. For features such as a burial caves, winepresses, quarries, etc, one position was recorded, while for others (e.g. aqueducts, certain kinds of walls), a line of positions was taken. When recording architectural remains and large structures, a polygonal outline was defined. Photographs were taken for each documented feature, and in case of large sites and major architectural remains, general photos of the sites were taken as well. The aim of taking pictures, apart from recording of the sites, was to compare their status today with previously recorded status, documented during site survey or excavation. This facilitates an assessment of any change in the archaeological landscape, as well as the rate of site deterioration and the current risks that sites are facing.

The following information was recorded for each site:

*Date:* Date of site visit.

*Zone:* Sub-zone in Gush Etzion in which the site is located (used for internal reference).

*Site Name:* Site name according to the database(s), and/or local inhabitants.

*Index:* Number of site in the list of sites taken from the databases (used for internal reference).

*Surveyors:* Keinan and Solimany on all occasions, and sometimes el-Amar. This was a relevant piece of importance to indicate as, for example, el-Amar's involvement at certain

stages demonstrably facilitated the finding of certain kinds of sites that were previously unknown, and also resulted in more accurate definition of the site names currently used by locals (such as springs or sheikh tombs).

*Databases:* Which databases the site was recorded in: WBEJAD Sur (Surveyed), WBEJAD Exc (Excavated), SOA Point, SOA Line, SOA Polygon, DACH.

*Coordinates:* GPS coordinates for each site location.

*Components:* The main components of the site. These may include structural remains, rock-hewn burial caves, installations, architectural elements, small finds, pottery, etc. The site components were recorded generally, and not measured. In case the site was published, site components that were mentioned in the publication were searched for.

*Context:* The current context of the site. This may differ from its context when it was first recorded, and may be valuable information. Possible contexts could be: inside a Jewish settlement or Palestinian village, open area, private lands, agricultural area, close to modern road, inside an industrial zone, and more.

*Accessibility:* General level of accessibility to the site, and more specifically: who can access the site and who cannot? How easy or difficult it is to get to the site? Is the public restricted from entering the site?

*Condition:* General assessment of the site's condition: whether it had been damaged or looted, whether the site is well protected and stable or parts of it are unstable or vulnerable, or whether the site is well or ill-maintained. The condition of the site was indicated: excellent, good, fair, poor, very poor.

*Difference:* When available, previous recordings of the site's past condition and use were examined and compared with the current state of the site.

*Threats:* Visible or potential threats to the site were recorded. Threats or risks could be natural forces such as erosion, vegetation, or material deterioration; human actions such as visitation, looting, vandalism, inappropriate development in or near the site, or lack of maintenance or neglect.

*Current Management:* Is the site maintained? Is it fenced? Are there signs, and if there are – what information do they include, and what is left out?

*Previous Interventions:* Indicating whether the site was excavated, fenced, whether signage was placed, or any other intervention after it was first recorded.

*Value:* Visible and clear values are recorded, e.g. archaeological or scientific value, aesthetic, historical value of the site. Do local residents still use the site? The assessment of values of a site could be a complicated task, therefore this field lacks information, since it records only those values that are clear to the observer, e.g. religious values.

*Recommended Action:* Actions that should be taken for the benefit of the site: monitoring,



conservation, cleaning, maintenance, or recording.

*Urgency of Action:* Level of urgency for taking action in the site: No treatment, desirable, necessary, urgent.

*Photos:* This database field indicates how many photos were taken and are available for this site record.

*Comments:* Additional information on the site: conversations with locals, personal impressions and experiences at the site, more about the site's context, etc.

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### 7.2.3 ANALYSIS

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Upon survey completion, the resulting dataset was finalised as a set of vector polygons (for concentrations of architectural remains, complexes and structures), lines (for an aqueduct, Jordanian trench and an enclosure wall), and points (for features such as installations or caves). This division provides a better geographical representation of the archaeological sites and features.

Thereafter, in characterising the reliability of existing datasets via this re-survey, I sought to answer the following questions:

- How many sites recorded in each existing database can be re-identified on the ground, and how many cannot?
- Are there certain sub-regions where some databases have a better, more detailed coverage than others?
- Which databases feature sites that were not rediscovered? Are there specific kinds of sites or features that were not re-identified and/or which definitely do not exist today?
- What is the locational accuracy of each dataset – how distant or close are the previously recorded locations from the coordinates taken via GPS today?

This analysis of different archaeological inventories was followed by an analysis of site conditions, aided by the comparison of current data with previous publications of surveys or excavation reports, including site descriptions and photographs. The following research questions were foremost:

- What is the current site condition, and how does it compare to what was previously recorded?
- How does the site relate, spatially and contextually, to modern local inhabitants and to its modern surroundings?

- What sorts of risks is each site facing, and which types of risk are most prominent?
- What are the main issues in terms of the accessibility of sites in the region?

## 7.3 RESULTS

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### 7.3.1 GENERAL

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The combination of all available databases for the region of Gush Etzion reveals a large diversity of archaeological sites for this area – dating from the Early Bronze Age into modern times.<sup>24</sup> Site types range from large settlements including structures, installations and cemeteries, and religious sites – churches, monasteries and mosques, to single structures, agricultural installations such as winepresses, oil presses, limekilns, water cisterns or wells, and other features such as quarries, burial and dwelling caves, springs and pools. In some cases, archaeological sites were recorded in more than one database. Fig. 7.3 demonstrates the overlap between the three examined databases, according to the total number of sites recorded in each for the Gush Etzion region: DACH and WBEJAD have 64 sites in common, WBEJAD and SOA have 33 sites in common, and SOA and DACH have 34 sites in common; 29 sites are listed in all databases.

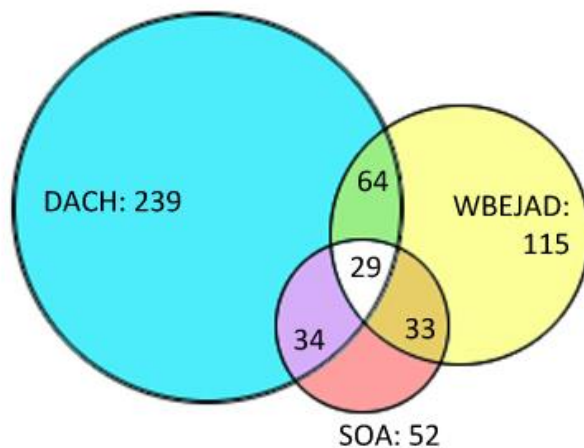


Fig. 7.3: Overlap of recorded archaeological sites in Gush Etzion within the three examined databases.

In total, 223 recorded sites were visited during the survey, out of which 127 were

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<sup>24</sup> It is highly possible that, as demonstrated in the previous chapter (Section 6.2.1.1), surveyors overlooked prehistoric sites in this region, and therefore these are not recorded in databases.

rediscovered and 96 sites were not (Fig. 7.4). Table 7.1 demonstrates the distribution of examined site records, rediscovered sites and those not rediscovered, for each inventory (as mentioned above, some sites were recorded in more than one database):

Inventory	Total No. of Examined Site Records	No. of Sites Re-discovered	No. of Sites Not Re-discovered	% of Sites Re-discovered	% of Sites Not Re-discovered
WBEJAD Sur	62	45	17	72.5%	27.5%
WBEJAD Exc	24	15	9	62.5%	37.5%
SOA Polygons	15	15	0	100%	0%
SOA Lines	1	1	0	100%	0%
SOA Points	43	36	7	83.5%	16.5%
DACH	184	106	78	57.5%	42.5%

Table 7.1: Sites examined, rediscovered and not rediscovered per inventory.

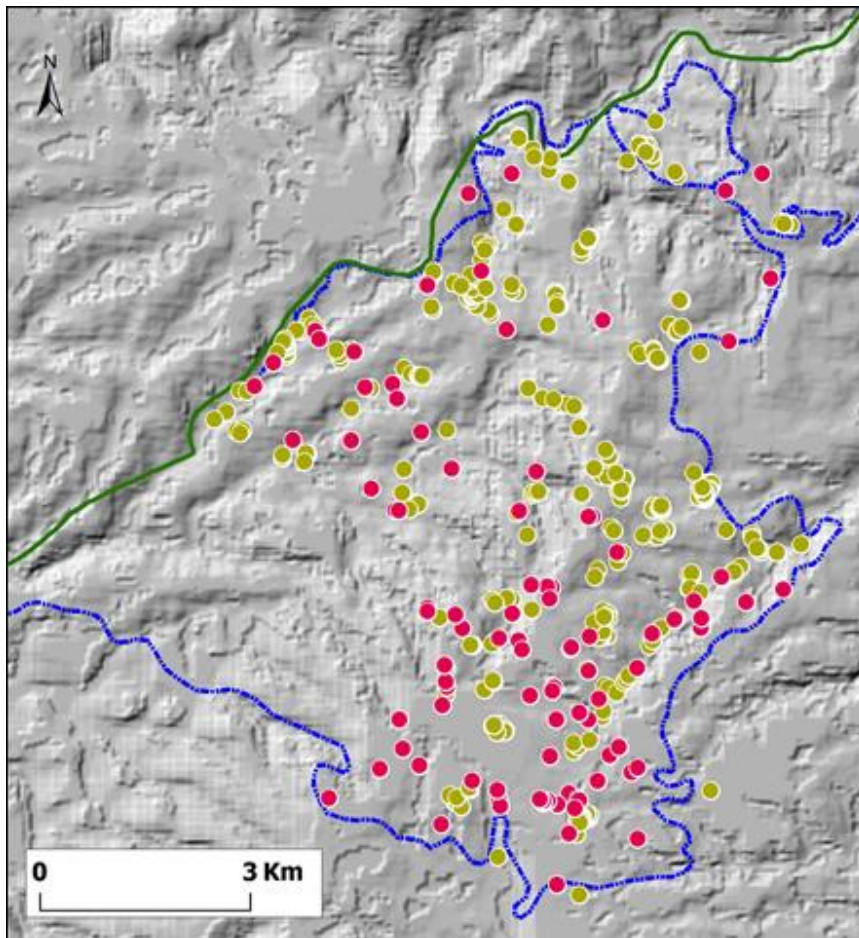


Fig. 7.4: Distribution of sites that were not rediscovered (Pink), compared to sites that were (Green).

Out of 96 sites that were not re-discovered, at least five were 'major' sites (i.e. those that include major architectural remains, old Islamic village cores, fortresses, enclosures, cemeteries, religious sites), and 91 were other, smaller sites or distinct features. There are a few cases of unpublished excavations that were conducted prior to modern construction and have since been destroyed, hence their character remains unknown. In addition to known and documented sites, 57 previously unrecorded sites were found during the survey, of which one is a major site and 56 are individual features. In total, 44 major sites and 393 smaller-scale sites and features (including some associated with larger sites) were discovered and rediscovered during the survey (Fig. 7.5).

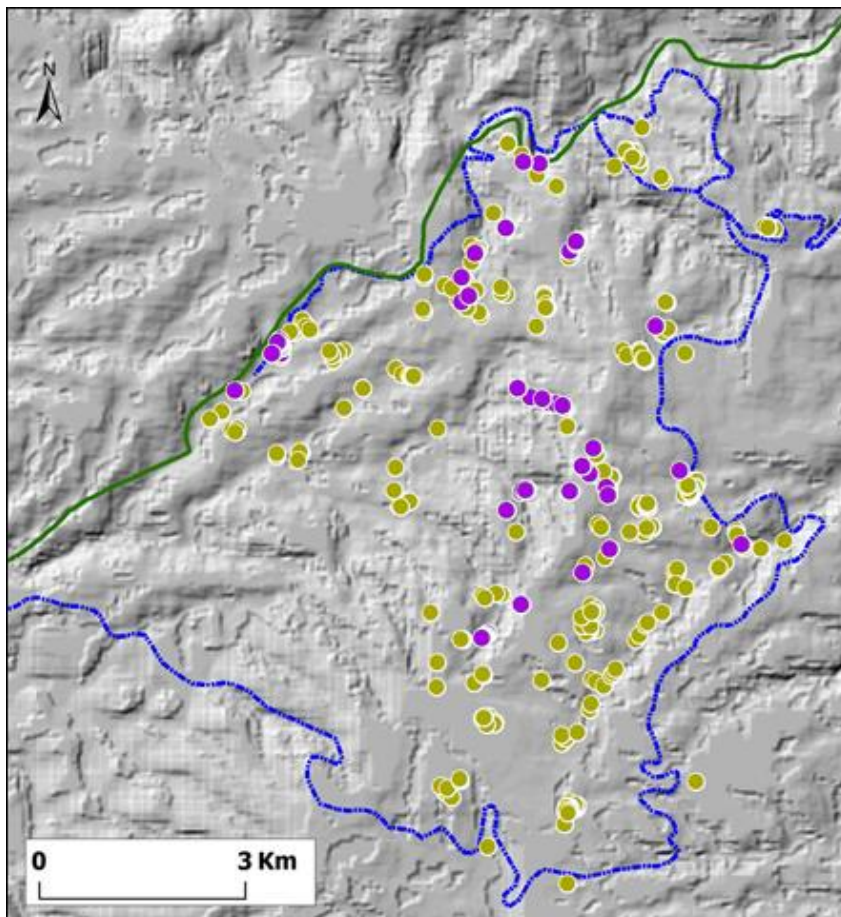


Fig. 7.5: Map of newly discovered sites (Purple) and all sites visited during the survey (Green).

In addition to the assessment and comparison of databases, a few additional aspects of listed archaeological sites were examined. The current status of sites, including their modern context, condition, potential threats, management and accessibility, is currently not adequately recorded in West Bank databases. Since this information is perceived to be highly important for heritage management and thus should be included in databases, it was recorded in the course of our fieldwork. The results of this documentation, which will



be described below, demonstrate how critical this information is for the understanding of the archaeological heritage in this region – and therefore should be regularly recorded and added to current databases used for heritage management.

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### 7.3.2 PREVIOUSLY KNOWN SITES

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In terms of the accuracy of existing site coordinates, normally there was a degree of discrepancy between old coordinates and newly recorded GPS coordinates. For sites surveyed by the Israeli government or academic institutions (WBEJAD Sur), the differences would normally range between 30 to 75 metres; however, the gaps between old and newly recorded site locations may at times be over 200 metres. As for excavated sites (WBEJAD Exc), it is more difficult to assess the accuracy of the coordinates supplied by the excavators (usually SOA). In some cases, determining the central point of a site may be challenging, as some sites were partially destroyed after excavation, and for other sites it was hard to tell which parts of them had been excavated. In general, the specified locations seem to range from very accurate points, to a few dozen metres of difference. Locations specified by the SOA (polygon, line or point data) were generally very accurate. In many cases, the SOA demarcated a site by a polygon which was larger than the visible area of a site as seen in this survey (e.g. Fig. 7.6). For sites recorded in the DACH database, the location specified was generally accurate, in those cases where the sites were actually re-identified.

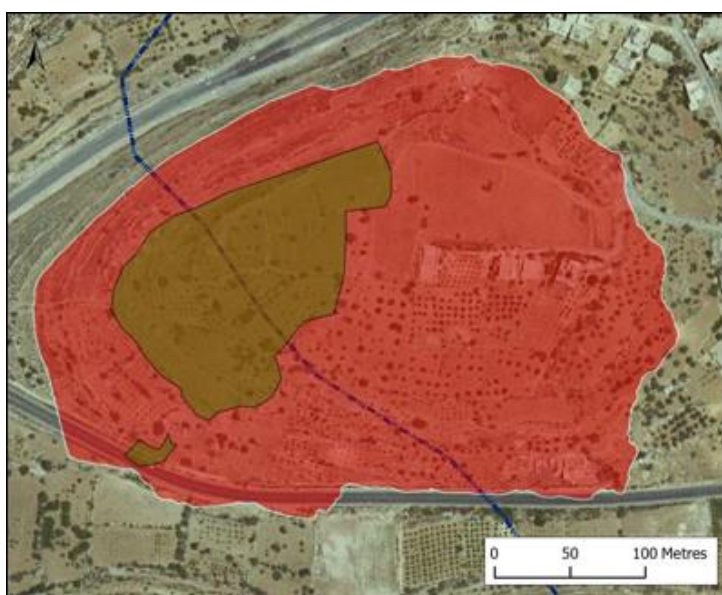


Fig. 7.6: The site of Kh. el-Aliya demarcated by polygons (Red = SOA polygon, Dark Green = current survey polygon). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

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### 7.3.3 SITES NOT REDISCOVERED

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The distribution of sites not rediscovered per dataset, was as follows:

- WBEJAD Sur – 16 sites that were surveyed, out of which two were excavated and a few others appear in the DACH dataset, were not found, and probably do not exist. Most of those sites (11) were destroyed due to modern construction, and the rest (5) were destroyed due to agriculture and other human activities.
- WBEJAD Exc – 9 excavated sites, mostly by the SOA and almost exclusively as salvage excavations, were not found and probably do not exist anymore. Those sites were excavated prior to construction work or due to looting.
- DACH – 75 sites included in the DACH database are not visible nowadays – these are mostly installations and other features or small sites.
- SOA Point – 7 sites recorded by the SOA as point data were not rediscovered. Most of them were destroyed due to modern construction.

Different types of sites that were not rediscovered include: 27 limekilns, 17 cisterns, 17 general sites (ruin/cemetery/unknown), ten caves, four structures, four quarries, three bridges, and 12 others.

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### 7.3.4 SITE CONTEXTS AND MODERN USE

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The sites visited during this survey were found in varying modern contexts. Most were located in what are now open areas, usually private Palestinian agricultural land (e.g. vineyards and olive groves). Since the survey area was relatively small in scope and included several Palestinian and Jewish localities, no archaeological sites found were ever very remote from settlements, and they were usually located in wadis, on hilltops or slopes. A few dozen sites were located directly inside Palestinian villages or Jewish settlements.<sup>25</sup>

It was interesting to observe the relationship between local inhabitants and sites, in or nearby settlements. Local Palestinian farmers often make use of a combination of natural

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<sup>25</sup> A few sites situated just outside the defined survey area were also visited in this survey, with the aim of examining possible contrast between their current status and the status of sites located inside Gush Etzion. Overall, their general context, condition and accessibility were very similar to sites within the survey area, and no apparent difference could be found.

springs, cisterns, wells, pools and open or closed water channels.<sup>26</sup> These irrigation systems are based on a much older infrastructure and traditional surface irrigation techniques, usually dating to Roman times, and may be traced back to as early as the Iron Age (Ron 1985, 167-169; e.g. Fig. 7.7).

In addition to the use of ancient irrigation systems, local Palestinian communities also renovate and inhabit some of the Ottoman period and British Mandate period watchtowers built in this area, in order to stay closer to their lands during the harvest (e.g. Fig. 7.8; Nairouz 2008, 132). Also cave dwellings, inhabited for hundreds and thousands of years, are now used by locals for residence and storage, especially around agricultural lands (e.g. Fig. 7.9).



Fig. 7.7: A modern plastered pool at Battir, built on the foundations of older one as part of a traditional irrigation system.



Fig. 7.8: Renovated watchtower near Battir, inhabited by the land owner.



Fig. 7.9: One of the dwelling caves south of Husan, as seen on the outside (left) and the inside (right).

<sup>26</sup> For more about present use of ancient cisterns in the West Bank see Koelbel 2009.

All Palestinian villages in the survey area had been built on older remains, and have an old village core where medieval and Ottoman period structures still stand. These buildings are at times partially destroyed and abandoned, but sometimes have been renovated and are used for dwelling to this day. In addition, old mosques, churches, cemeteries, sheikh tombs and even schools located within villages are also still being used, visited and maintained in modern times.

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### 7.3.5 SITE CONDITION AND THREATS

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The condition of archaeological sites in the survey area varied from very well-preserved sites, with prominent structural remains, to ill-maintained or looted sites and burial caves. Several sites were in an excellent condition and regularly maintained on account of their touristic value. The underground aqueduct of Wadi el-Biyar (Mazar 1975, 81; 2002, 223-226) is now part of an archaeological park, and is being cleaned and looked after on a regular basis. A complex Jewish ritual bath (*miqveh*) situated northeast of Alon Shevut and nearby the settlements Neve Daniel and Rosh Zurim and excavated in 1990 (Amit 1995, 1999, 2000), is located by a path called 'The Patriarchs Route', used by pedestrians, cyclists and vehicles. This site is also well maintained due to its Jewish value, interpreted as a ritual bath used for purifying pilgrim Jews passing by on their way to the Temple in Jerusalem. Other sites are well-preserved because they are not easily accessible. The site Kh. Umm eṭ-Ṭala', a Persian fortress excavated in the early 1980s (Ofer 1985), is in excellent condition since it is located in an Israeli military zone, and therefore is inaccessible to the general public. The two neighbouring late Iron Age fortresses Kh. el-'Id (Barouch 1997) and Deir Baghal (Kochavi 1972b, Site 28; Weiss *et al.* 2004, Site II) are located on hilltops and are relatively distant from entrances to settlements. As a result, their architectural remains are well-preserved.

Some sites are in good condition since they are located in open areas and not inside settlements. For example, the Middle Bronze Age sites of Rujm eṣ-Ṣabit (Kochavi 1972b, Site 54; Ofer 1993, Site 286) and Bureikut East (Ofer 1993, Site 287) are located inside vineyards but not destroyed by them. Other sites are in a good general condition, but are treated as rubbish dumping areas by individuals or by local industries. For example, a series of burial caves in the Jewish settlement Rosh Zurim, or the recently excavated area of Kh. el-Yahudiya in Battir, which are polluted by a modern dump. A complex winepress



located in the village Umm Salamune (Ofar 1993, Site 288) is partially covered with industrial debris of the stone cutting factory adjacent to it (Fig. 7.10). In at least one case, throwing rubbish resulted in direct damage to a site, as in the case of the upper Biyar aqueduct, located close to the northern entrance to the settlement Efrata, where part of the aqueduct was damaged by construction dump thrown from above.



Fig. 7.10: One of the burial caves in Rosh Zurim (top left), Kh. el-Yahudiya in Battir (top right), and a winepress in Umm Salamune (bottom).

The impressive Byzantine church in Kh. Bureikut (Tsafirir and Hirschfeld 1978, 1979, 1993), located inside the Jewish settlement Migdal Oz, is not in a very good condition mostly due to vegetation growth and natural erosion. The mosaic floors remaining at the site have suffered from deterioration and vegetation growing from beneath them (Figs. 7.11 and 7.12), and a tree is growing out of the eastern side of the church's excavated crypt (see Fig. 7.13). The church and the rest of the site of Kh. Bureikut are not extensively visited, due to their location inside the settlement, which is fenced and guarded.



Fig. 7.11: One of the mosaic floors in the Byzantine church of Kh. Bureikut.



Fig. 7.12: Mosaic floors in the church of Kh. Bureikut, during excavations in 1976 (top; after Tsafrir and Hirschfeld 1979, figs. 10 and 11), and the same area today (bottom). The eastern mosaic was removed, while the western one (shown in the new photos at the bottom) remained at the site.





Fig. 7.13: The crypt of Kh. Bureikut church, as it was in 1976 (top; after Tsafrir and Hirschfeld 1979, fig. 30), and today (bottom).

One site in a very poor condition is the late Iron Age village in Kh. Jarish (Amit 1991), located close to the checkpoint of Mevo Betar. This site, excavated in 1989, was in excellent condition when surveyed by Kochavi in 1968 (Kochavi 1972b, Site 14), and was still very well preserved when re-visited in 1983 (G. Solimany, pers. comm.). However, today a garage is built on its eastern side, and a large part of the site became a dump zone, with old cars, piles of tyres and other industrial waste (Fig. 7.14). The eastern side of the site had been destroyed due to modern road construction, while its western part, located further from the garage, is in a better condition (see e.g. Fig. 7.15), despite the planting of olive groves and vineyards.



Fig. 7.14: Kh. Jarish, looking south-east.



Fig. 7.15: The perimeter wall of the late IA village in Kh. Jarish, looking north, in 1968 (left; after Kochavi 1972b, Site 14) and in 2010 (right).

The magnitude of destruction in this site can be visualised when comparing the site plan, as was drawn after the excavation in 1989, and current satellite image, showing the modern road, garage and dump piles at the site (Fig. 7.16).

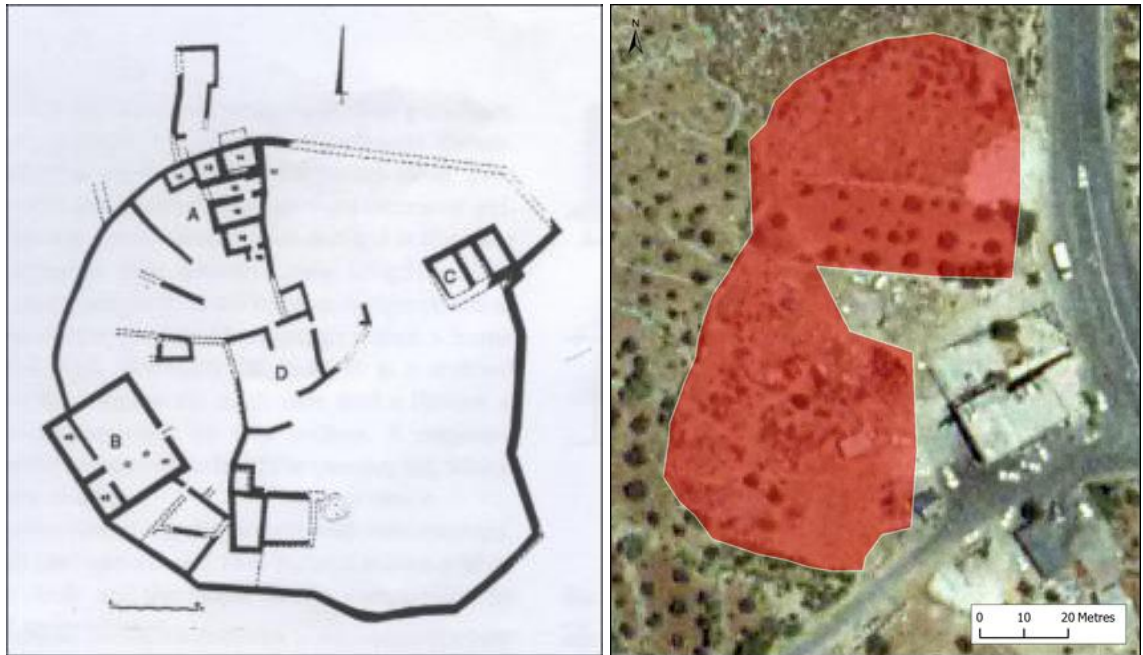


Fig. 7.16: The site of Kh. Jarish as seen on the plan (left; after Amit 1991 fig. 147) and 20 years later (right; marked as a polygon by the SOA). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

Other archaeological sites were found in a bad condition due to looting. Looting is widespread in the West Bank and was clearly evident in the survey area as well. Looting was indicated in a few major sites and generally in or around burial caves. The Middle Bronze Age and Roman sites at Kh. el-Yahudiya (Ussishkin 1992, 1993), on the outskirts of Battir, show significant signs of looting in the form of robber pits and trenches (Fig. 7.17); Kh. Umm esh-Shaqaf (Kochavi 1972b, Site 18) located inside Husan and another site located in Wadi Fuqin face a similar fate. The sites of Deir Baghal, Kh. ed-Deir (Kochavi 1972, Site 31; Weiss *et al.* 2004, Site V), Kh. el-Humeidiya (Kochavi 1972, Sites 43 and 45; Ofer 1993, Sites 307 and 308) and Deir el-Banat (Ofer 1993, Site 316) feature little evidence of looting and are generally in good condition. Burial caves were extensively looted, especially when comprising part of a large cemetery, such as the case of Kh. el-'Aliya (Peleg 2003), where a robbery pit was found between two rock-cut burial caves (Fig. 7.18), or the cemetery in Jami' (Danyal) South (Ofer 1993, Site 322), when two piles of bones and some pottery sherds were found just outside burial cave entrances (Fig. 7.19).





Fig. 7.17: Evidence of robbery in Kh. el-Yahudiya.



Fig. 7.18: Robbery pit between two burial caves in Kh. el-'Aliya.



Fig. 7.19: One of the rock-cut burial caves in Jami' (Danyal) South, with two piles of bones dug out by looters.



The SOA's spatial data for this area includes a field indicating (Yes or No) whether there is any evidence of looting at each site, as a reflection of the scope of site robbery in the West Bank. Out of 36 sites recorded in this dataset and visited during the survey, 27 are indicated as looted, which implies a 75% rate of site robbery. At many sites that were indicated as looted in the SOA dataset, no unambiguous signs of robbery were noticed during our survey, but scant evidence of looting was found in one site, Deir Baghal, that was indicated as not looted by the SOA. Aside for the looting indicator, there are many other aspects of site conditions and risks that should be documented in databases, for better protection of this region's heritage. The information described in this section complements current data included in databases, which generally describe sites' components, but ignore their current state.

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### 7.3.6 ACCESSIBILITY

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Much can be said about the issue of accessibility to archaeological sites in Gush Etzion in particular, and the West Bank in general. Following the events of the first uprising (*intifada*), a series of fences, walls and checkpoints have been built in the West Bank. As a consequence, free movement is limited, especially for Palestinian residents. This survey examined the issue of accessibility in Gush Etzion from the archaeological point of view.

Many sites are located in open areas and are physically accessible to anyone due to their proximity to main roads, even if many are nonetheless located on private Palestinian land. Other sites in open areas are relatively remote from a main road, and require time and effort to get to (e.g. the late Iron Age fortress at Kh. el-'Id). A few sites could not be visited at all since they were located either inside a military zone (Kh. Umm eṭ-Ṭala', the highest spot in the area, situated next to a military antenna), a military base (parts of the Byzantine site of Deir Sha'ar), and in a very few cases, sites located inside fenced private Palestinian lands were not accessible at all.

Other sites are located within the boundaries of Jewish settlements, which are all fenced and have at least one guarded entrance with an electric gate. Sites located within such settlements (such as Kh. Bureikut), are generally not accessible for Palestinians, except for some specifically authorised individuals.<sup>27</sup> The fences around Jewish settlements also affect accessibility to sites outside of those settlements. Some sites were located just outside of the fence, which sometimes led to difficult and lengthy journeys around the settlement to access them. Such was the case of the deserted Ottoman village in Kh. Khamase (Amit 1992), located south-west of a large fenced area near Beitar 'Illit. But the most astonishing case of difficult access of that sort is the *wadi* situated between the two ridges of Beitar 'Illit (Fig. 7.20). This wadi, which includes a few springs and part of the site of Kh. Ṣabur, is completely fenced on all sides. Local Palestinian farmers coming from Husan access their lands in the wadi through the Jewish settlement only and with special authorisation. Therefore, almost no one has access to this wadi and its sites. On the other hand, many sites are located inside Palestinian villages (e.g. Kh. el-Yahudiya), which are not fenced and are physically accessible, but are not frequently visited by Israelis due to the current political tension.

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<sup>27</sup> In the case of the settlement El'azar, we were questioned by the guard and the chief security officer of the settlement before being authorised to get in.

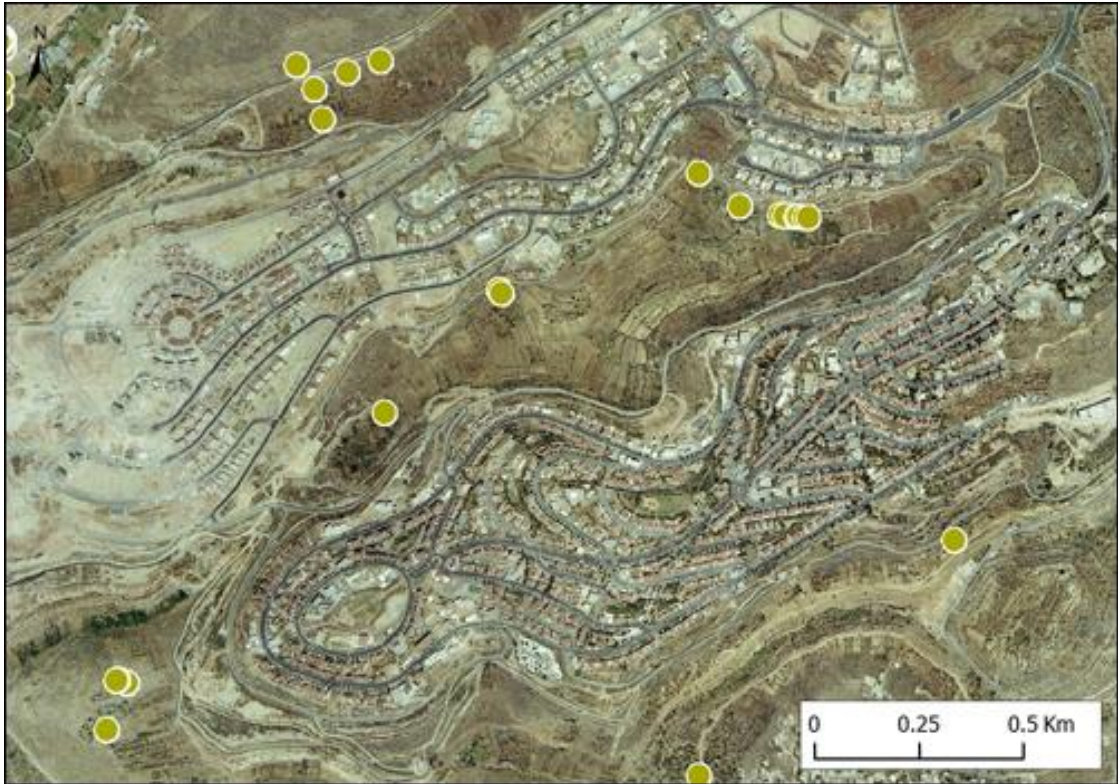


Fig. 7.20: Enclosed wadi with a few sites (marked in Green), located between two ridges of Beitar 'Illit. Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

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### 7.3.7 SITE MAINTENANCE AND PRESENTATION

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Different kinds of interventions were observed at archaeological and historical sites in Gush Etzion. Whereas some sites receive regular maintenance, include signage and are being visited by and presented to the public, others are being neglected, poorly presented, and sometimes even vandalised. As other aspects of archaeological sites in the region (mentioned above), the issue of site management is also not sufficiently recorded in databases, and in most cases not mentioned at all. Descriptions of management measures taken at sites, covered in this section, will demonstrate the importance of their inclusion in heritage databases.

The underground Roman aqueduct of Wadi el-Biyar is probably the archaeological site receiving the best treatment in Gush Etzion. The site was converted into a park, is open to visitors, includes facilities (restrooms, a small cafeteria, a parking lot, sitting areas) and is being maintained on a regular basis (Fig. 7.21). Maintenance work includes the removal of mud debris from the underground tunnels twice or three times a week. At least one guide



is present during opening hours, providing visitors with leaflets with information on the site, the aqueducts leading to Jerusalem, and the current activities of the Field School of Kfar Etzion (Kfar Etzion Field School 2013). According to the site guide present at the time of the survey, the Gush Etzion Field School is in charge of the administration (such as public relations), but the initiative and maintenance of the site are private. There are around 100-150 visitors a day, and about 50,000 visitors a year, most of which are Israelis living outside of Gush Etzion; there are no Palestinian visitors. There is signage for the site in the area of Efrata, along the roads, as well as inside the settlement. The route of the upper Biyar aqueduct is also being used by hikers, and is marked on maps as a proposed track for local tourists.



Fig. 7.21: The underground aqueduct of Wadi el-Biyar (left) and its archaeological park (right).

Another site converted into archaeological park is located inside an Israeli military base at the settlement Har Gilo (Ras Beit Jala), situated a few kilometres south of Jerusalem (Fig. 7.22). Ancient remains are located at three different areas: (1) fenced and partially roofed excavated area which includes a structure, installations and rock-cuttings (probably burial caves); (2) archaeological park (built in memory of Meir Lamberg) right next to the excavation area, featuring oil press remains brought into the site and oil press reconstructions; (3) a couple of columns were re-erected in the area of the soldiers' dormitories. A discarded SOA sign 'warning' about the archaeological excavation was found inside the structure in the excavated area (Fig. 7.23). Apart from that, no signage explaining the site could be found.



Fig. 7.22: Har Gilo excavated area and archaeological park.



Fig. 7.23: SOA sign in the excavated area.

A few small sites or features were converted or incorporated into sitting areas. A large rock-cut winepress found very close to El'azar was enclosed with stones, and a roofed sitting area was constructed next to it (Fig. 7.24). Three sitting areas were constructed along the so called 'Patriarchs Route', which was a Roman road between Hebron and Jerusalem. The complex Jewish ritual bath excavated by Amit (see above) was well arranged for visitors (Fig. 7.25). A shade and a sitting area were constructed at the site, and a sign was placed next to it. Two Roman milestones (XI and XII) were found in the vicinity of this road; they were re-erected and sitting areas were built next to them (Fig. 7.26).



Fig. 7.24: Winepress and a sitting area next to El'azar.



Fig. 7.25: The Jewish *Miqveh* alongside the 'Patriarchs Route'.



Fig. 7.26: Roman milestone XI and a sitting area (left and centre); Roman milestone XII and a sitting area (right).

In some Palestinian villages, structural remains of the ancient cores were rehabilitated as part of heritage protection schemes. The Battir Cultural Forum in Battir and Hosh Abu Fanoun in Nahalin were two projects designed and supervised by the Centre for Cultural Heritage Preservation (CCHP 2013) and funded by SIDA – the Swedish International Development Cooperation Agency (SIDA 2013). The old core in Nahalin was converted into the village's medical centre (Fig. 7.27).





Fig. 7.27: Hosh Abu Fanoun, Nahalin's medical centre.

Many holy Muslim sites such as sheikh tombs and mosques were renovated and are being visited by local Palestinian communities. The old mosque and sheikh tomb in the village Beit Zakariya were probably built on ancient (probably Byzantine) church remains (Kochavi 1972b, Site 50), according to column fragments and capitals in the courtyard, and marble chancel screens on the mosque's roof (observed at the time of the Emergency Survey). We also detected a column and an ashlar stone incorporated in the structure (Fig. 7.28).



Fig. 7.28: The mosque and sheikh tomb in Beit Zakariya.

In a few areas, springs and water systems were rehabilitated with the aid of foreign funding organisations.<sup>28</sup> For example, the spring of 'Ein el-Balad is one of five springs rehabilitated during 2007-2008 in a project entitled 'Emergency Water supply for Rural Palestinian Communities in the West Bank', with the help of the European Commission Humanitarian Aid. 'Ein el-Hadafeh spring, located inside the village al-Walajeh, was repaired with the funds of World Vision in 2003, in the context of the West Bethlehem Area Development Program. The spring and pool of 'Ein el-Hawiya, located close to Husan, became a recreation site for local communities, which enjoy swimming in the main pool (Fig. 7.29). The pool area was paved, and a pipe conveys the spring water to the pool.



Fig. 7.29: 'Ein el-Hawiya spring.

Unfortunately, many other sites do not receive even minimal care, are not well presented to the public or are presented in a very specific way. Despite its great potential, the Byzantine church in Kh. Bureikut is being neglected and not maintained at all. At least three signs were placed around the church, but all of them were later destroyed, one was even burnt (Fig. 7.30). There is meagre evidence for fence construction around the church compound (as well as around a part of the site itself, located to the north of the church), and a fence was constructed around a cistern, as safety measures.

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<sup>28</sup> For more information about water systems rehabilitation see for example Nofal *et al.* 2005.



Fig. 7.30: Vandalised signs at the Byzantine church in Kh. Bureikut.

The impressive site of Kh. Beit Sawir (Peleg 2005), located at Giv'at HaHish outpost, lacks maintenance and signage despite its great visual and scientific potential. The site includes large ritual bath remains, Umayyad period mosaic pavements, structural remains and many installations, rock-cut caves including a columbarium cave, and a rock-cut winepress, of which the deep collecting vats were covered in a non-aesthetic way as safety measures (Fig. 7.31).





Fig. 7.31: Kh. Beit Sawir: mosaic floors (top) and a large winepress (bottom).

The Russian monastery built on the remains of a Byzantine church and known by the name of Deir Sha'ar (Ofer 1993, Site 284; Fig. 7.32) is also in urgent need of maintenance work. The site is very impressive and includes massive structural remains, installations, caves, and a rock-cut cave with a deep underground tunnel cut into the rock. A Russian monastery was built at the site in 1892 and was inhabited by monks for a few decades. The site, converted into a military post in the 20<sup>th</sup> century, was the location of severe battles in the 1948 Arab-Israeli war. In terms of signage, there are a couple of small signs nearby showing the way to the monastery. A large sign, placed at the entrance to the monastery compound and written only in Hebrew, describes the modern history of the battles taken place in 1948. The stories are told from an Israeli-Jewish point of view, including phrases

such as: “...in the evening *our* forces took control over the military post”, or: “the monastery fell at the hands of the *enemy*” (own emphasis; own translation), meaning the Arabs. There is no mention of the Byzantine church located on that spot.



Fig. 7.32: Remains of the Russian Monastery Deir Sha'ar (top), and the sign placed at the entrance to the site (bottom).

Similar biased presentation was observed at the spring 'Ein Abu Zeid, now located in the settlement Rosh Zurim. This spring was renamed after the Jewish settlement 'Ein Zurim, established in 1946. A sign placed next to the spring tells the story of the establishment of the kibbutz, its destruction in the 1948 war, and the establishment of Kibbutz Rosh Zurim on its ruins after the 1967 six-day war. Another sign directing to 'Ein Zurim was placed inside the settlement itself.



## 7.4 DISCUSSION

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### 7.4.1 ARCHAEOLOGICAL INVENTORIES

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Some general comments can be made about the nature of the different archaeological databases tested in this survey. Whereas the DACH dataset (which is based on British surveys, i.e. late 19<sup>th</sup> century and early 20<sup>th</sup> century data) was initially the most detailed one, it turned out that almost half of its listed sites are not visible nowadays; these sites were either covered, but most likely partially or wholly destroyed. The SOA's data, which started being collected after 1967, was much less detailed but a lot more up to date – altogether, almost 90% of the sites (point, line and polygon data) were eventually rediscovered during the survey. However, in absolute numbers, the DACH database lists almost as many sites as recorded in all the other tested datasets altogether. It could also be observed that in general, DACH's data was more detailed than the other datasets for sites inside Palestinian localities. The four sheikh tombs and spring of 'Ein el-Balad inside Nahalin, the old cemeteries in Husan and the old mosque and school inside Battir were recorded only in the DACH inventory. In addition, DACH data was more accurate for springs and features like limekilns and cisterns.<sup>29</sup> Many of these features were exclusively recorded only in the DACH dataset.

The other two datasets tested, WBEJAD Sur and Exc, are compilations of all the data gathered by Israel since the occupation of the West Bank in 1967. The survey inventory included 62 examined records – just under one third of the number of records from the same area in the DACH database. This relatively small number of archaeological sites reflects the nature of the Emergency Survey (i.e. mainly revisiting sites already marked on maps), and the fact that the area was not completely covered by Israeli surveys. Survey coverage, in this case, is an important methodological issue that should be referred to. As mentioned above, it seems as if the Israeli recording of sites was not always detailed inside Palestinian villages.<sup>30</sup> In addition, Ottoman remains, as well as remains from other periods, were not always recorded comprehensively. Another issue, which is common for any

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<sup>29</sup> Koelbel surveyed ancient cisterns in a region very close to the survey area. He mentioned that most of the cisterns found in his survey were not previously recorded in British maps, and it is unclear whether they were actually aiming at a full coverage documentation of these features (Koelbel 2009, 8).

<sup>30</sup> It should be noted here that, if this re-survey had taken place in Area A, which generally includes Palestinian cities, it is likely that the rate of surveyed and excavated sites recorded in the WBEJAD would be even smaller than indicated here.

archaeological survey, is the fact that sites, especially small sites or specific features, may be overlooked. It may be a result of a certain path taken in the field, a result of high or thick vegetation at certain times of the year, and even due to lack of attention by the surveyors. All these issues eventually influence the creation of this and all other inventories.

The low rate of excavated sites rediscovered (WBEJAD Exc, 62.5%) reflects the nature of many of these excavations – salvage works prior to modern construction and the complete destruction or covering of sites. In general, it seems that there are major discrepancies between the information existing in different databases and archaeological reality in the field. While such absences may be acceptable for lists of sites surveyed or excavated by Israel (WBEJAD Sur and Exc), the inventories of the SOA and DACH, which are the official databases used for the management of this archaeological landscape, should be more accurate, up to date and comprehensive.

Some discrepancies also occur between the grid coordinates specified for recorded sites and the GPS location recorded in the field (all in Old Israel Grid). For sites included in the WBEJAD Sur list, the distance between the given coordinates and new GPS coordinates may be quite significant. It seems that the main reason for that is that it was not always possible to mark the estimated central point of a site, and sometimes a point somewhere seemingly random at the site was recorded as the site's location. Locations specified by the SOA (polygon, line or point data) were generally very accurate, probably due to the use of GPS and other modern equipment or software.

SOA's data was the only one to include polygons<sup>31</sup>, which serves the purpose of this dataset – direct management and protection of archaeological sites. The perceived size, shape and boundaries of a site are important for protection measures, as well as the demographic and environmental surroundings of a site. In terms of methodology of site boundary delineation, it is clear that demarcation was done in the field, using GPS, possibly later refined using satellite imagery or aerial photos. In many cases, the SOA demarcated a site by a polygon which was larger than the visible area of a site as seen in this survey (e.g. Fig. 7.6). This may be due to more meticulous and precise demarcation, considering surface pottery distributions as well. It does not seem as if the reason was a deliberate addition of a buffer zone around the sites, as some sites had very clear boundaries, such as the perimeter wall of the IA village in Kh. Jarish, or the IA fortresses of Deir Baghal and Kh. el-'Id. The methodology of site boundary demarcation and decisions made during

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<sup>31</sup> DACH's GIS did not yet include polygons at the time of conducting this fieldwork

demarcation procedures, therefore, remain unclear.

Apart from the obvious change in accuracy resulting from the use of GPS devices, the recording of site locations continues to reflect a general challenge in archaeological surveys. Recording a site's location, whether with or without a GPS, involves decision-making, which may vary from one surveyor to another. Determining the estimated centre of a site (for point data) or the boundaries of a site (for polygon data) involves making choices in the field. A site's boundaries may be determined by pottery distributions, structural remains, installations or other standing features around a main concentration of architectural remains. However, even when one seems to observe accurate boundaries for a site, they may still be unclear. Appropriate observations of possible boundaries may be restricted by modern constraints (such as fences or terrace walls) or vegetation, which may compromise sites' visibility. As a result, a gap would be expected between recorded location and boundaries of archaeological sites and their boundaries as they were perceived in the past.

Our survey also revealed 57 sites that were not previously recorded in any of the datasets (see Fig. 7.5). This may be due to several reasons, some of which were already mentioned. One reason for finding new sites is that some of the past surveys in this area were purposely meant to be partial and cover a limited number of sites, thus not the entire area was covered. In addition, Palestinian villages may not have been covered as extensively as other areas by Israeli survey teams, which explains the discovery of many new sites in and around the villages of Battir and Husan. In one case, a very large cave was discovered by locals in Battir in the 1990s. This cave was not visible when surveys in this area had taken place. The recording of structures such as 19<sup>th</sup> or 20<sup>th</sup> century watchtowers, which did not previously appear in inventories, may be explained by the fact that they were not considered ancient or old enough while they were surveyed, and therefore not recorded. Moreover, it is sometimes hard to date watchtowers, so consequently most of them were not recorded. Impossible or very difficult access to sites or areas may result in survey teams not reaching some sites. In other cases, some sites (e.g. caves, cisterns) are not easily detectable, and could have been overlooked by survey teams.

Many other sites, previously recorded in the different datasets, could not be rediscovered during this survey (see Fig. 7.5). Clusters of sites that were destroyed or covered would normally appear either inside or in the immediate proximity of modern settlements, or on agricultural lands. The main reason for their disappearance off the landscape is modern

human activity: sites were dismantled or covered by modern construction and due to development, usually the construction of new houses, new roads, infrastructures or industrial zones; other sites were demolished due to exhaustive agricultural activity, such as ploughing and the construction of terrace walls. For the most part, sites located inside Israeli settlements were excavated and/or covered due to rapid settlement expansion, repair works and refurbishments. Those sites had gone through salvage excavations or were recorded by the SOA prior to their partial or full destruction (e.g. Kh. Şabur in Beitar 'Illit; Şabit MB cemetery in Efrata, see Gonen 1981, 2001). Some sites or features (e.g. cisterns, wells or limekilns) went out of use and were either dismantled, covered or filled. In many cases of dismantled structure walls or installations, their building stones were used in the construction of newer houses or incorporated into agricultural terraces. Other features, such as deep cisterns or cave openings, were covered for safety reasons, especially in areas of human presence. In very few cases, sites could not be visited during this survey because they were located inside private fenced lands or inside a military base. As a consequence, these sites were not recorded. It is also reasonable that some sites were not rediscovered due to an original inaccurate grid location, or may have been overlooked by the surveyors.

Considering the results of databases' assessment in the field, it seems that at its current state, DACH database is still not suitable for its purpose as the main national database of archaeological sites. Since at present it relies mainly on British Mandate surveys, it is largely outdated. However, as mentioned in Section 5.4.1, this database is scheduled to include all past surveys conducted in the West Bank, a work still under way. SOA's data, on the other hand, is much more accurate in terms of site existence, as well as its inclusion of sites demarcated by polygons – clearly indicating good familiarity with archaeological sites in the field. Nonetheless, there is much archaeological data still missing from the SOA dataset, as witnessed by data from WBEJAD or DACH databases. The purpose of WBEJAD was to create an inventory of Israeli archaeological activity in the West Bank. While this database largely met those objectives, the new re-survey makes it clear that Israeli surveys did not cover all sites, as numerous sites do not appear in WBEJAD. This further emphasises that areas that were in fact covered by Israeli surveys were not always thoroughly examined.

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#### 7.4.2 MODERN CONTEXTS, THREATS AND CONDITION OF SITES

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The current condition of archaeological sites always relates to their modern context, level of accessibility and the specific threats or risks that they are facing – all of these different aspects are linked to one another. Deterioration of site conditions in the survey area usually related to human activity such as looting, construction or agricultural activity, but was also due to neglect and lack of maintenance. These aspects of archaeological sites were documented in the course of this fieldwork, in order to demonstrate how valuable and necessary they are for a better understanding of the archaeological landscape of the region, and therefore for better protection and management. Indeed, there are many interesting insights about these sites, their relationships with modern settings, and the different ways in which people interact with them.

It was notable, for example, that a site's current condition was directly related to its accessibility and proximity to settlements. The unfortunate recurring instances of site robbery well demonstrate the connection between easy and quick access to sites and their rate of looting (e.g. Kh. el-Yahudiya in Battir, Umm es-Shaqaf in Husan). However, although looting, certainly evident in Gush Etzion as in the rest of the West Bank (see for example Ilan *et al.* 1989; Kersel 2006; Yahya 2008a, 2008b), is one of the major threats on archaeological sites in this region, there are other causes for deteriorating site conditions in the survey area. One reason is simply erosion – structural remains are slowly disintegrating due to the sustained impact of weather; human or animal visitation, and encroachment by vegetation. Human visitation largely affects sites, whether by the removal of small finds, throwing rubbish in or around sites, damaging sites due to lack of awareness for their value, and even causing intentional damage. Other causes for site destruction are agricultural activity and modern construction, which are of a major threat in an area that is rapidly developing. Another cause for damage of archaeological sites is archaeological excavations which are not for salvage or rescue purposes. This kind of archaeological activity is not urgent or essential, and may 'invite' looters to sites after excavations are over (e.g. Rapoport 2006).

A more positive interaction between people and archaeological sites can be seen in sites found in or around Palestinian villages. Many of those sites comprise part of the villages' economic, industrial and agricultural activities. Springs, pools, cisterns, wells and caves that have been used for hundreds and thousands of years, are still in present-day use for

olive production, vine cultivation and animal husbandry. This continuity of use was termed by Poullos (2010, 175) a 'living heritage', where a living heritage site would be a site that "maintains its original function, as continually reflected in the process of its spatial definition and arrangement, in response to the changing circumstances in society at local, national and international level". Such sites are abundant in Gush Etzion and in the West Bank in general, where local villagers use the area's natural and ancient surroundings while maintaining their economy, using traditional agrarian methods.

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### 7.4.3 SITE MAINTENANCE AND PRESENTATION

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In a similar fashion to the recording of sites' context, condition, risks and accessibility, this fieldwork also recorded maintenance measures that were taken (or not) at archaeological sites in the region of Gush Etzion. This was done for the same purpose: to emphasise the importance of having databases include crucial information which is not currently included in any of them. As demonstrated by the survey's results, making informed strategic decisions on sites' protection and presentation would not be possible without understanding the bigger picture of managing heritage in this region.

It was observed that the general status of heritage management in Gush Etzion reflects a lack of awareness of the different values represented by archaeological sites, poor maintenance and preservation, and biased interpretation and presentation to the public. The ongoing Israeli-Palestinian conflict and the co-existence of Arabs and Jews living in this area play a major role in the way sites are being managed and in the nature of interaction (or lack of interaction) between local communities and their archaeological and historical environment. Many sites are inaccessible to either Palestinians or Jewish settlers, the barrier being either physical or social. Physical access is possible for Jews to almost all archaeological sites in this area, whereas Palestinians are physically banned from sites located inside Jewish settlements, such as Kh. Bureikut or the site at Har Gilo.

Social or psychological barriers stand in the way of local inhabitants when sites are attributed to or associated with Jewish heritage, or when they are situated very close to Jewish settlements. For example, the Biyar aqueduct, its entrance located at the foot of Efrata, is associated with Jewish history, as it is attributed to King Herod, who ruled over Judea in Roman times, and is presented in the context of the larger water system conveying

water to the Jewish Temple in Jerusalem. Another example of ‘cultural appropriation’ resonates in the interestingly themed ‘Patriarchs Route’. Even though the name given to this road clearly alludes to a biblical-era path used by none else than the Patriarchs themselves, the archaeological features with the nicely constructed sitting areas situated alongside this road all date to the Roman period. This is an example of a wider phenomenon of local Jewish settlers, defining themselves as the true indigenous people of the region while “resetting the geographic context to its original form” by transforming the landscape back into a Jewish one (Feige 2007, 283).

The separate heritage of Israelis and Palestinians is also manifested in signage placed at sites (on the very few occasions when signs were actually present). Signs explaining a site were only found written in Hebrew – for the underground and open Biyar aqueducts, the Jewish *miqveh* along the ‘Patriarchs Route’, ‘Ein Zurim spring (previously called ‘Ein Abu Zeid) and Deir Sha’ar monastery. Some of these signs seem to be of rather temporary nature (Fig. 7.33). Bilingual signs in Arabic and English, stating names of sites and organisations involved in their rehabilitation were found in a few cases of rehabilitated ancient village cores and springs. The case of ‘Ein Zurim spring, with a sign telling the history of the local kibbutz while changing the spring’s original name, is one example of a wider West Bank phenomenon of settlers transforming springs into touristic attractions or commemoration sites, while preventing local Palestinians from accessing them (Rinat 2010). As other aspects of heritage management mentioned here, it is also important to include a documentation of signs placed at heritage sites. This would contribute to a better understanding of how heritage is being presented in the region, and how this presentation could be improved.

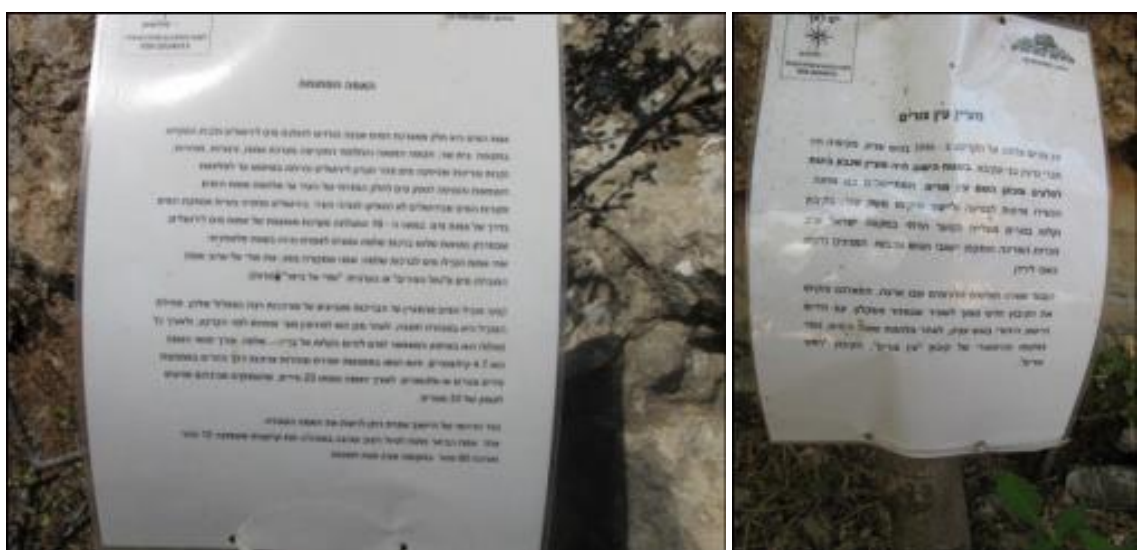


Fig. 7.33: Signage placed at the open Biyar aqueduct (left) and at ‘Ein Zurim spring (right).

This survey identified several sites in this region which are of great historical, aesthetic and touristic value, and which should be better preserved, maintained and presented to the public. Some of these are the late Iron Age fortress of Kh. el-'Id, the medieval to Ottoman period site of Kh. el-Humeidiya, and the monasteries Deir el-Banat and Deir Sha'ar. These sites should be better interpreted and presented, at least by placing trilingual signage on them. In other sites, such as those mentioned above, old and temporary signs should be replaced with new and updated ones. Adding signs that offer different stories and traditions about a site, not just the Jewish/Israeli point of view, is necessary for raising public awareness of the multiple aspects contributing to the region's archaeological and historical heritage. Involving and engaging the local communities with their archaeological environment would also contribute to site preservation<sup>32</sup>.

## 7.5 SUMMARY

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The main objectives of the survey in Gush Etzion were twofold: first, to compare and contrast the multiple archaeological inventories listing sites in this area, and second, to inspect the current condition of sites in this region and the risks they are facing. The results of this re-examination in part of the West Bank demonstrate the importance of periodic re-survey and updating existing datasets with further information, particularly on the changing situation in terms of access and risk. The combination of both Israeli and Palestinian sources is also essential as they supplement each other and introduce different points of view and different values. The next chapter is the first of two chapters that consider the second case study developed in this dissertation, focusing on the Jericho Oasis. In a similar manner to this chapter, it will also examine the different inventories available for a specific region in the West Bank – Jericho. However, the same overall research questions will now be approached using a different methodology: examining, assessing and comparing extracts of databases available for this area; and delivering a questionnaire to stakeholders in order to get another angle on how to further improve data management and dissemination.

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<sup>32</sup> For more recommendations regarding public awareness see for example Sayej 2010.



## CHAPTER 8. JERICHO OASIS CASE STUDY – PART 1

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### 8.1 INTRODUCTION

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The Jericho Oasis, with its rich and diverse cultural heritage, poses special challenges to archaeologists and heritage management practitioners. The city and its environs include abundant archaeological remains, dating from the Epipaleolithic to modern times, many of which are of special significance to Christians, Muslims and Jews. There are numerous archaeological and architectural inventories covering this region, some of which are national level databases that encompass the entire West Bank, while others are locally focused and dedicated to Jericho. This chapter examines the types of data available for this region and explores the perspectives and opinions of archaeologists and cultural heritage practitioners, with regards to database and GIS use for the management of cultural heritage in Jericho. Thus, this case study mainly aims to understand the nature and use of databases and GIS in the area of Jericho, from which to generalise some insights on the wider region of the West Bank. More specifically, this chapter aims at better understanding the types of data and inventories available for Jericho; the ways in which the political conflict affects data collection and dissemination; and the ways in which data management should be improved in the future.

In order to examine these issues, different methodologies are employed in this chapter, which is divided into two major sections: the first section (8.2) includes a general description and analysis of the inventories available for the Jericho Oasis; and the second section (8.3) includes the first part of the results of a questionnaire distributed among archaeologists and cultural heritage professionals dealing with Jericho. The chapter that then follows (Chapter 9) further examines how archaeology students and heritage practitioners document, use and perceive heritage data on a digital platform and in the field.

The area of Jericho was chosen as a case study due to the richness and considerable variety exhibited by its heritage resources as well as the diversity of archaeological projects and heritage management initiatives that have taken place here. The city of Jericho is situated in the Jordan Valley, west of the Jordan River and 10 km north of the

Dead Sea, in the midst of a lush oasis created by the abundance of springs in the area, especially 'Ein es-Sultan (Stern 1993, 674; see Fig. 8.1). The Jericho Oasis is very rich in archaeological, historical and religious sites due to a continuous settlement of diverse populations starting from *ca.* 9,000 BCE. The ancient city, considered one of the oldest in the world, was centred at Tell es-Sultan – a tell site with elaborate Neolithic, Early Bronze Age and Middle Bronze Age remains and its nearby cemetery (Kenyon 1960, 1965, 1981; MoTA-DACH 2005, 12-14; Nigro and Taha 2011). The area of Jericho also includes significant Hellenistic and Roman period remains, mainly palatial complexes and fortresses (Tulul Abu el-'Alaiq, Kypros; Netzer 2001; Netzer *et al.* 2004), an elaborate Jewish cemetery (Hachlili and Killebrew 1999) as well as dozens of caves along the Jebel Quruntul ridge (Wexler 2002). Byzantine era remains in the area are of great importance to Christianity and Judaism, and include synagogues (Shalom al Israel, Na'aran; Netzer 1999), monasteries (e.g. St. George of Koziba, Deir Quruntul/Mount of Temptation), churches (e.g. Tell el-Hassan; Khirbet en-Nitla; G. Foerster in Stern 1993, 696-697) and other religious routes and locations referred to by Christian Gospels (MoTA-DACH 2005, 13). The most prominent Muslim site is Hisham's Palace (Khirbet el-Mafjar), an important Umayyad palatial complex, whose main features include a mosque, baths and an ornamental pool (Hamilton 1959; MoTA-DACH 2005, 35-36). In addition to the sites described here, the area of the Jericho Oasis is abundant with many other significant archaeological, historical and religious sites (e.g. Taha 2011).

Sovereignty over the city of Jericho and its immediate surroundings was transferred from Israel to the Palestinian National Authority under the "Gaza and Jericho First" follow-up agreement to the Oslo Accords (MFA 1994). Since the withdrawal of the Israeli forces from Jericho in May 1994, the Jericho Oasis has been under full Palestinian control (Area A), and archaeological work in that area became the responsibility of the Palestinian Department of Antiquities and Cultural Heritage. From that point on, Israeli archaeological activities ceased to take place and were replaced by a plethora of Palestinian and foreign archaeological and heritage management initiatives (Nigro and Taha 2006). Archaeological projects included numerous excavations (e.g. Anfinset 2006; Nigro and Taha 2011) and surveys (e.g. Birzeit 2010; Hawari 2010a), while cultural heritage management schemes include conservation and preservation of sites, mosaics and architecture, planning an archaeological park (F. Nigro 2006), tourism plans and site management (e.g. Rjoob 2003, 2012), as well as the creation of archaeological inventories (L. Nigro 2006).

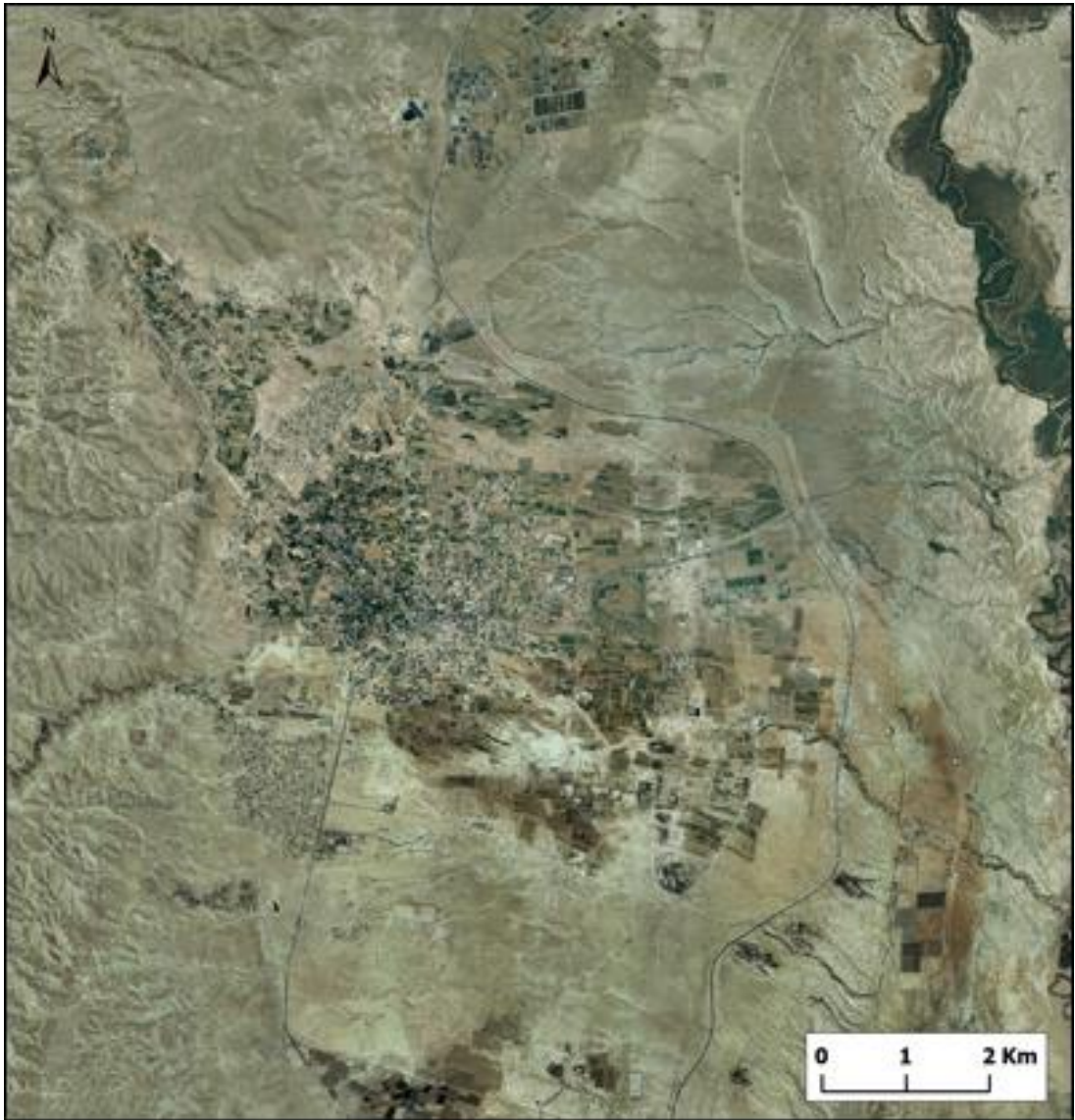


Fig. 8.1: Jericho and its environs. Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

The management of such plentiful and diverse heritage resources is complex and has to involve multiple stakeholders. Being one of the landscapes targeted most by the Palestinians in terms of heritage management, which includes major touristic attractions for local and foreign visitors, this archaeological landscape has undergone many archaeological and heritage ventures. We could learn from the use of inventories and GIS in archaeological projects and cultural heritage management in Jericho about potential problems or limitations of these platforms in the rest of the West Bank, especially when it comes to issues of quality of data and access to it. The following section briefly describes and compares the archaeological and architectural data available for Jericho, in order to provide a good picture of the nature of the available data.

## 8.2 JERICHO DATABASES

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This section includes the description, comparison and analysis of the main archaeological and architectural inventories available for the Jericho Oasis. It focuses on the four national level databases, two of which are Palestinian and two are Israeli: the database of the Palestinian Department of Antiquities and Cultural Heritage (DACH; see Section 5.4.1); Riwaq's inventory of vernacular architecture (see Section 5.4.2); the Israeli Staff Officer of Archaeology's (SOA) spatial layers (see Section 5.4.3); and the West Bank and East Jerusalem Archaeological Database (WBEJAD; see Section 5.4.4). Having access to raw data stored in these datasets allows for a more detailed discussion and analysis presented in this section. In addition, all of these datasets are used in the class exercise discussed in the following chapter (Section 9.3). As mentioned in Chapter 5, these are not the only databases available for the Jericho region. PADIS is a database focused on Jericho alone, and the landscape survey conducted by Birzeit University and University College London (UCL) includes data particularly for the area of Hisham's Palace. Due to the inaccessibility of the digital version of PADIS (at the time of writing this chapter), and the very limited scope of Birzeit dataset, they are not included in the overview of this chapter. The main aim of this section is, therefore, to provide a good picture of the archaeological data available for Jericho, as well as to present the data used in the second part of this case study in the following chapter.

For this aim, the following section describes and discusses several databases by following a number of criteria and guidelines, mainly concentrating on databases' content and site distributions. The data was requested and received from different institutions; therefore the scope of information on some aspects of the data varies. Description of factual data about the inventories states: the geographic scope of the data; how many records of sites there are in the received data; and what are the contents of the database. This account, which is specific for Jericho, complements the more detailed examination of these inventories described in Chapter 5 (Section 5.4). This description is followed by interpretative commentary about the databases' contents as well as spatial observations regarding their patterns of site distribution.

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## 8.2.1 DATABASE DESCRIPTIONS

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The exact geographical area covered in this section was, to some extent, determined by the scope of data received from DACH and Riwaq. Since my communications with these organisations was often intermittent, I decided to work with the data that was received rather than make repeated requests to fulfil my original intentions in terms of coverage. The DACH data received for Jericho covers an area of 20 km stretching from east to west and 14 km north-south. It includes the entire municipal area of Jericho, the Jericho Oasis (cultivated area in and around Jericho), and wide areas to their east and west (see Fig. 8.2). Data received from Riwaq was very diverse and elaborate, covering both archaeological sites and architectural features. The extent of the received architectural spatial layers is limited almost entirely to the municipal area Jericho, and its immediate surroundings (Fig. 8.3). A spatial layer defining the extent of this area was provided, covering *ca.* 6 km east-west and *ca.* 5 km north-south (with one of the provided records falling outside of this area). The received archaeological data, on the other hand, covered a very large area, far beyond the scope of Jericho and its surroundings. The distribution of this data, covering the Jordan Valley and most of the Jericho District (and beyond), stretches from the north-eastern most point in the West Bank all the way south to the city of Jericho, an area of about 15 km east-west and 61 km north-south (a GIS layer defining the exact extent of this data was not provided). For the purpose of this discussion, I refer to the supplied layer defining the scope of Riwaq's architectural data.

While data originating from the databases of DACH and Riwaq had to be specifically requested for the purpose of this case study, data from WBEJAD and SOA were already available to me. This data derives from their respective databases (described in Chapter 5); thus it covers the entire West Bank and is not exclusive for Jericho. Therefore, for the purpose of this case study, I refer here to the same scope of data that was provided by DACH for Jericho (described above).

The data provided by DACH included 166 records of archaeological sites, mostly distributed in the city itself and to its immediate proximity, as well as to its south-east and south-west. In terms of the contents of the DACH database, the data covers basic information about archaeological sites such as site name, type of site (aqueduct, building, etc), its location and whether it was excavated; there is also useful data for cross-referencing with previous archaeological surveys (See Table 5.1 in Chapter 5). In addition,

there are two database fields relating to the management of sites, indicating whether sites were open, accessible or organised for visitors (e.g. major sites such as Tell es-Sultan and Qasr Hisham, some monasteries and more); and whether they have or will have a management plan (one only currently exists for one site – en Nu'eima).

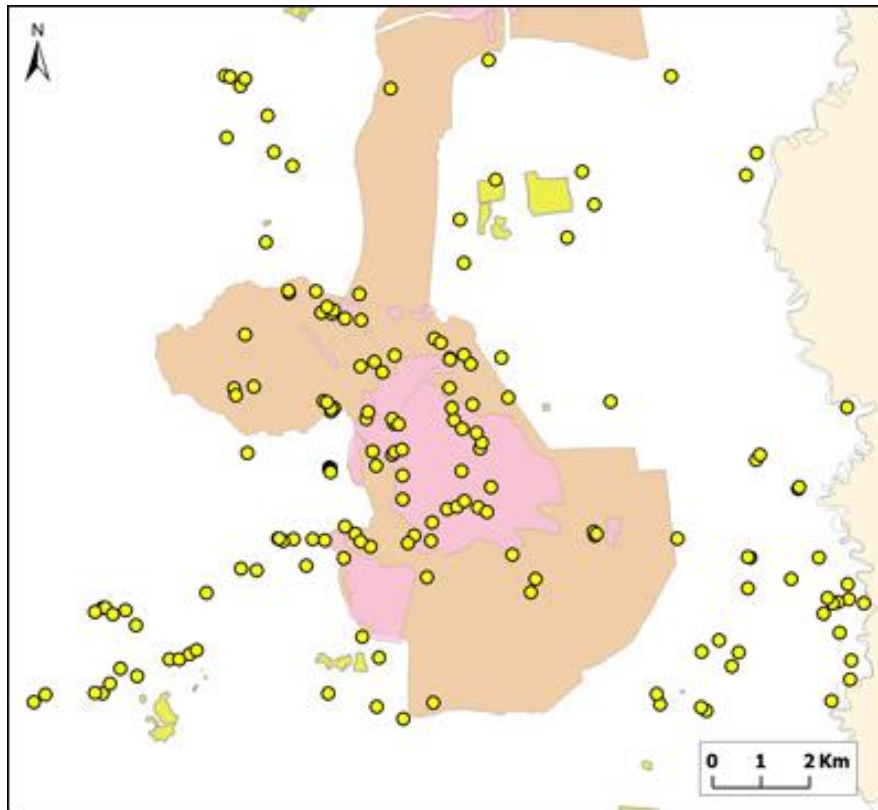


Fig. 8.2: Geographical scope of the data provided by DACH, and the distribution of DACH archaeological sites. Exact longitude/latitude coordinates for this area are: Lat 31.9385 Lon 35.3911, Lat 31.9385 Lon 35.5545, Lat 31.8116 Lon 35.5545, Lat 31.8116 Lon 35.3911. Pink area: Palestinian locality (Jericho); yellow area: Jewish locality; brown area: Area A; white area: Area C.

The data received from Riwaq included several archaeological and architectural spatial layers, the data of which appears in different spatial forms (points, lines and polygons) and often overlaps.<sup>33</sup> Therefore, it is not clear exactly how many unique architectural features are included within those spatial layers. Examining the most detailed spatial layer reveals that there are at least 3501 unique records of buildings for Jericho. As for archaeological data, the spatial layers included 41 records of archaeological sites. When examining the distribution of archaeological and architectural sites, it is evident that they are mostly concentrated in the city itself and its very immediate surroundings (only inside the oasis itself; Figs. 8.3, 8.4).

<sup>33</sup> Some of this data originates in the Palestinian Ministry of Culture, and is not fully correlated with Riwaq's data. This caused data overlap, among other issues (B. Jubeh, pers. comm.).



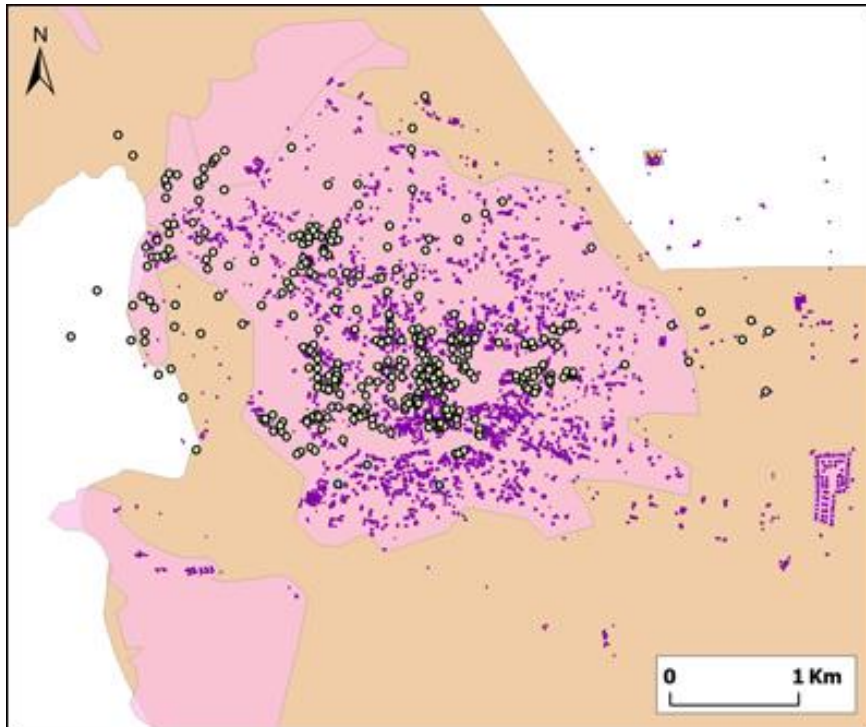


Fig. 8.3: Distribution of architectural sites from the Riwaq inventory. The dots represent exact locations of buildings, and the purple lines represent exact contours of structures. Pink area: municipal area of Jericho; brown area: Area A; white area: Area C.

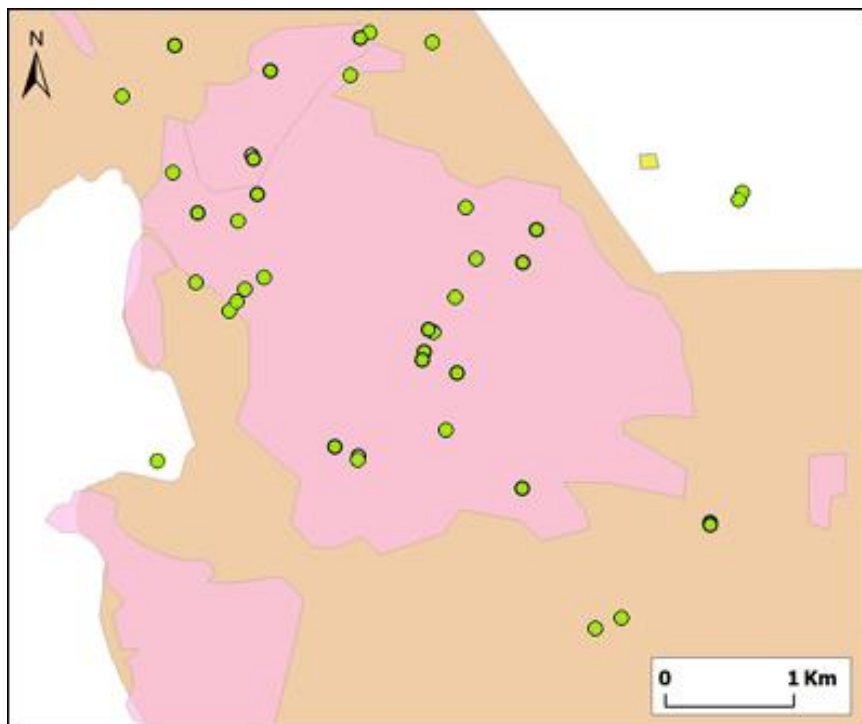


Fig. 8.4: Distribution of archaeological sites from the Riwaq inventory.

The different spatial layers of architectural elements provide much information on private and public structures in Jericho. This data does not only provide point locations, but also

polygons demarcating the precise footprints of the buildings. Database entries include basic information about structures such as their name (including the name of the owners, in the case of private buildings), structure type (e.g. house, church, hotel) and location, more detailed information about the buildings' characteristics such as elevation, area and perimeter. Data on archaeological sites is more basic, and includes sites' name, type (e.g. tell, khirbeh), location and division (unclear field; see Tables 5.4 and 5.5 in Chapter 5 for the full spatial layers' structure).

Examining the distribution of archaeological sites extracted from the SOA database, it is evident that they are mostly distributed to the west of Jericho, with some sites to its south-east (Fig. 8.5). There are no sites within the municipal area of Jericho, and with one exception, there are no sites inside Area A. This data includes 41 archaeological sites as point data, and 8 sites marked as polygons, most of which overlap with the point data.

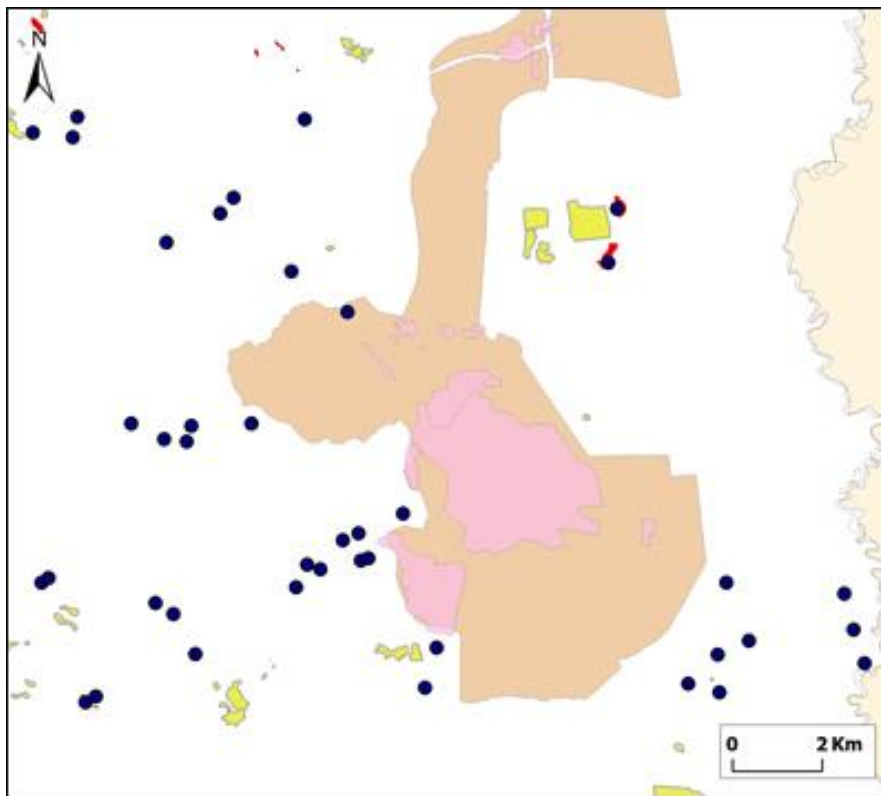


Fig. 8.5: Geographical scope of the data retrieved from SOA's spatial layers. The dots represent point data, red areas represent polygonal data (very small); pink area: Palestinian locality; yellow area: Jewish locality; brown area: Area A; white area: Area C.

The data for each archaeological site includes exact location, site names and identification, ownership (e.g. Arab, Jewish, etc), indications of whether the site has a religious significance, whether it was looted, excavated or surveyed, whether it appears in the



British gazetteers, its periods of existence, whether the site is located within a military zone, whether there is a bypass road to the site, as well as other data (see Table 5.6 in Chapter 5).

The WBEJAD's data is distributed inside and all around Jericho (Fig. 8.6), especially to its west (with many sites along the Quruntul ridge) and its south-east. This data includes 481 surveyed archaeological sites and 64 excavated sites (almost all of which were surveyed as well).

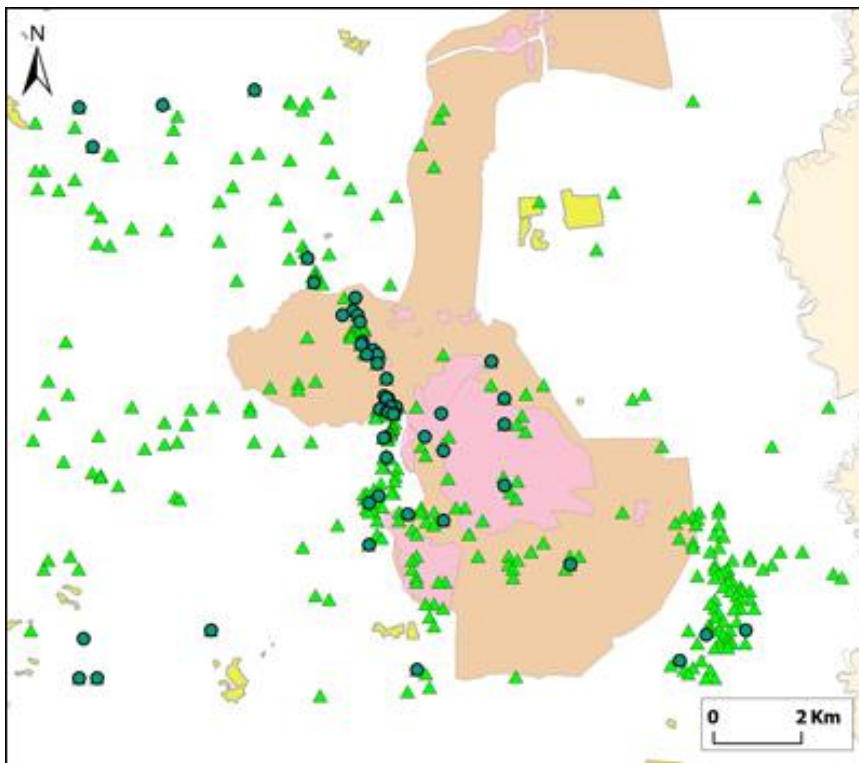


Fig. 8.6: Geographical scope of the data retrieved from the WBEJAD. Dots represent excavated sites, triangles represent surveyed sites.

In terms of its contents, the WBEJAD data includes site location, name(s), survey references, periods of existence, major site components, and additional comments; if the site was excavated – information also includes details on excavators, license number(s) and publication bibliography (see Table 5.8 in Chapter 5).

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## 8.2.2 ANALYSIS AND DISCUSSION

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Examining the scale, contents, and site distributions of the above databases reveals interesting insights and patterns, similarities and differences. To begin with, the number of records per database varies greatly according to its resolution and scope. WBEJAD and DACH are very detailed for archaeological sites, while Riwaq is very detailed for traditional architecture. When comparing SOA's data to these databases, it is evident that it is not as comprehensive. Riwaq database includes very elaborate architectural data, collected in order to promote conservation of buildings inside Jericho. This is the only database having the capacity to provide with such level of detailed information per architectural feature, be it a private house or public structure. For this case study, Riwaq has supplied archaeological data as well. This data seems to be of very basic nature; when comparing Riwaq's archaeological data with that of DACH, it is evident that Riwaq's archaeological sites are generally major sites in Jericho, although at times this archaeological database complements DACH data with sites unknown to it.

More about the purpose of Riwaq's database can be learned when comparing Riwaq's data with the data publically available online for Jericho (Riwaq 2011). The online registry of architectural features includes far fewer records – 424 buildings. However, despite its not being as comprehensive, it includes additional types of information. These are: current use (e.g. residence); whether the building was inhabited or abandoned; quality of construction (good, medium, poor); number of stories; architectural style; building materials (bricks, wood, etc); entrance and door shape; building plan; roof; type of building's surface (e.g. plain, bricks) and type of floor (e.g. concrete). It is possible that those differences reflect the audience of each dataset: the database sent from Riwaq also includes polygons demarcating the perceived boundaries of buildings, suits management-purposes, for which the exact shape and perimeter of a visible building, as well as how it relates to its surroundings, is of great importance. On the other hand, details provided on Riwaq's website may be of greater interest to local communities, taking interest in their architectural environment.

It is evident that the governmental databases created by SOA and DACH are more management-oriented, while the WBEJAD is more research-oriented. SOA database's structure includes more fields than other databases, such as land ownership, indication of military zones or bypass roads. This reflects the use of the SOA database for practical

purposes much more than academic research. DACH's database includes fields such as 'Tourism' and 'Planning', demonstrating that this database also goes beyond pure archaeological data for research purposes. WBEJAD, on the other hand, puts more emphasis on archaeological data such as periods of existence, major finds at the site and excavation publications, while lacking data relating to management. This demonstrates that WBEJAD was created more for academic purposes and being more research-oriented than both governmental official archaeological databases (see also Section 6.3.3).

These issues can also be discerned when examining site distributions generated from these databases. The SOA's sites distribution is significantly different from other databases, as it includes no sites inside Jericho City itself, and includes only one site in Area A. This distribution demonstrates that SOA is focused on areas where it has jurisdiction to operate. Since SOA's data is very lacking for Area A, it does not encompass all archaeological sites in this region, showing that it is more management-oriented than research-oriented. An opposite trend was observed in WBEJAD's site distribution: this database includes many sites inside Jericho proper as well as sites falling within Area A. This is because WBEJAD relates to all known sites that were excavated or surveyed by Israel, without taking into account jurisdiction constraints. The same occurs with DACH database, including sites both in Areas A and C, therefore not relating to areas of jurisdiction. However, DACH database does include much data inside Jericho City and to its immediate north, showing more emphasis on the built and inhabited area. Understandably, this is the focus of Riwaq register as well, having all of its records located inside the city.

As previously mentioned, Riwaq's data included polygons, representing the footprint of historical buildings. As the demarcation of exact location, shape and position of buildings and sites, as well as the visualisation of spatial relationships, are crucial for effective management, it would be expected that DACH database keeps on adding polygons representing archaeological sites, in order to create a substantial source of this type of spatial information. SOA does demarcate sites by polygons, even if, in the Jericho area, these seem to overlap with sites demarcated by a single point. As the case in the previous chapter, it is also unclear here what exactly the SOA's polygons represent – visible or also buried architecture, pottery scatters, or protection zones. It seems that due to the perceived importance of these sites (e.g. Iron Age site, Byzantine monastery) they have undergone more extensive recording procedures than others, albeit without any declared standardised protocol. WBEJAD data does not include polygons, as it methodologically

recorded only a central point for each site (as provided by survey and excavation publications).

Another issue evident when examining site distributions of the different inventories is that, to a great extent, they complement each other. Whereas data on major sites usually overlaps, each database includes its own unique records. DACH database, for example, includes clusters of sites along Wadi Qelt and others close to the Jordan River – these sites are covered by this database alone. Some of these sites are clearly important, such as the monastery of Deir Wadi el Qilt, but most of them are minor features such as bridges (possibly British Mandate ones). As both areas of these site clusters were previously surveyed by Israelis (Bar-Adon 1972; Hirschfeld 1983; Sion 1994), it seems plausible that either many of these features do not exist anymore (as learned from the field survey searching for similar database entries, discussed in the previous chapter), or that Israeli surveys in these areas were scant. When examining WBEJAD site distribution, it is noticeable that it was created using different sources while heavily relying on the availability of academic publications; therefore site distributions do not reflect all existing sites as they are affected by topical surveys and excavations. For example, it is evident that for the Jebel Quruntul ridge (of which about half its length is now situated in Area A), this dataset is the most comprehensive one. This is due to Operation Scroll (Wexler 2002), conducting thorough surveys of caves in this area. The DACH database, on the other hand, does not have much information on the Jebel Quruntul area. A concentration of dozens of sites located south-east of Jericho City (mostly in Area C) is the result of focused surveys by Sion (1997) and Hirschfeld (1983), digitised for the WBEJAD database. WBEJAD also includes sites inside Jericho – these were surveyed in the Emergency Survey (Bar-Adon 1972), Hirschfeld's (1983) topical survey and Sion's (1997) Map of Kalya survey. The WBEJAD data inside the city largely overlaps with DACH's data; however each of these databases includes sites which the other does not, therefore complementing each other.

Reviewing the different databases and comparing them to one another also reveals that politics had a significant impact on the creation and contents of different databases. For example, Operation Scroll, which took place immediately after the signing of the Oslo Accords, significantly influenced the resulting archaeological map of this area in the WBEJAD database (see Fig. 8.6). DACH's data for Jericho reveals no records of sites excavated by Israel during the occupation period (1967-1994). This may be due to lack of access to such data, preceding the publication and distribution of WBEJAD. WBEJAD on the other hand lacks important excavations conducted before 1967 (e.g. Hisham's Palace) and

after the beginning of Palestinian control (e.g. Tell es-Sultan); this is due to the database's pre-defined scope and aims.

Lastly, it is also apparent that some databases reflect more conscious bias and selectivity, according to their creators and their interests. This is manifested best by the SOA database, where the field 'religious significance' received a 'Yes' value exclusively for the most important Jewish related sites, especially biblical ones, ignoring important monasteries and other religious sites (as mentioned in Chapter 5). This is evident for the Jericho area, where no monasteries or churches were considered religiously significant. Similarly, the two sites that are marked as having 'national significance' are two major Hasmonean sites – Tulul Abu el-'Alaiq and Kypros, sites relating to Jewish heritage only. In DACH database, the criteria used for defining sites as either a 'Main Site' or a 'Feature' are rather vague. While all sites that were defined as a 'Tell', 'Khirbeh' or 'Inhabited Village' were defined as 'Main Sites', other major sites, such as synagogues, monasteries and cemeteries were defined as 'Features'. It is unclear whether this division reflects recent priorities, or was 'inherited' from British Mandate surveys.

This section described archaeological and architectural records originating from all four national-based databases: DACH, SOA, Riwaq and WBEJAD and then offered a critical analysis, by comparing each database and its resulting site distributions. The overall goal was to contribute to a better understanding of their scopes, objectives and priorities. The following section examines the opinions of archaeologists and cultural heritage specialists about the use of database and GIS in Jericho archaeological projects.

## 8.3 STAKEHOLDERS QUESTIONNAIRE – PART 1

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### 8.3.1 AIMS

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The main aim of this questionnaire is to better understand the attitudes and viewpoints of archaeologists and cultural heritage practitioners towards the use of databases and GIS in projects taking place within the Jericho Oasis. These experienced stakeholders can supply educated opinions about the experience of working with existing database or GIS environments. Therefore their opinions are of the utmost importance for this research. The questionnaire was divided in two – the first part is presented here, while its second

part is included in the following chapter (Section 9.2), due to its different methodology and aims.

The aims of the first part of the questionnaire were: to get a better picture of how, when, and by whom databases are being used; to assess their limitations or problems according to existing users; to explore whether current levels of accessibility to data are satisfactory; and to propose how existing data management can be improved. Another aim was to learn more about the ways in which the present political situation in the West Bank affects heritage management and decision-making relating to archaeological projects. Stakeholders' perspectives and firsthand experiences working in the field or managing sites are an outstanding contribution to a more informed awareness to the political issues affecting cultural heritage management and more specifically influencing the collection and organisation of data.

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### 8.3.2 METHODOLOGY

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Two main criteria were taken into consideration when targeting respondents for this questionnaire: the first was specialists who currently work or have worked in archaeological or cultural heritage related projects in the Jericho area, with or without experience working with databases or GIS. The second was a diversity of institutional backgrounds: the survey was sent to archaeologists, architects and heritage professionals, some of which are scholars from Palestinian or foreign universities, while others work as heritage practitioners in municipal or governmental institutions, Palestinian NGOs (Riwaq, PACE, etc), or international organisations (UNESCO, ICOMOS, etc). A diversity of respondents was sought, aspiring to an adequate representation of the variety of stakeholders involved in archaeological and cultural heritage projects in the larger context of the West Bank. This diversity would contribute to a broader picture of heritage management, as well as provide potential comparisons between different attitudes and opinions. The aim was to provide a sample of different parties involved in archaeological, architectural or other heritage projects in Jericho, with a view to understanding the likely opinions of a wider population of archaeologists and heritage practitioners in other regions of the West Bank.

Eighteen stakeholders were chosen to be sent this questionnaire, according to academic publications of different projects in Jericho, as well as my personal knowledge of such projects and people involved in them. This sample is considered to be a major part of the group of those directly involved at an informed level in work within the region. At first glance, the sample size may not seem very large – a larger number of respondents might be thought to increase the validity and robustness of survey results. However, these individuals were handpicked as they were regarded as the most advantageous combination of professionals from different national and institutional backgrounds. Their expertise and experience working in the region will undoubtedly increase the potential quality and depth of responses to the survey questions.

The questionnaire was designed as a web-based survey and was distributed via e-mail. As previously mentioned, the online platform option was chosen due to its advantages of being user-friendly and easily accessible, as well as time and cost effective (see Section 2.3.4). This online survey was anonymous and confidential. It included fourteen questions, out of which twelve were close-ended (some with an option to add free text), and two were open-ended (see Appendix Ia for the full-version questionnaire). Questions 1-3 and 10-14 targeted all respondents, while Questions 4-9 were optional and were designed specifically for database and GIS users. The first three questions (close-ended with multiple choice) aimed at retrieving factual information about the respondents. The following six questions, Questions 4 to 9 aimed at getting information on different aspects of database and GIS usage. Questions 10 to 14 examined attitudes to data enhancement and accessibility. The final question (Question 14) did not relate directly to the use of databases and GIS, but aimed at acquiring better knowledge of the broader context in which archaeological projects and heritage management activities take place in Jericho, inquiring about the effects of the current political situation on the archaeological work in Jericho.

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### 8.3.3 RESULTS

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The survey was sent to eighteen stakeholders and completed by twelve respondents during June and July 2011 (see Appendix II for the full survey results). Out of the twelve respondents (Question 1), eight were Palestinians, employed by Palestinian governmental or municipal institutions, NGOs and/or universities, and four were Europeans, working in

international NGOs and universities (which either were or still are involved with archaeological projects in Jericho).

When asked which databases they were familiar with (Question 2), 75% of the respondents (nine) were familiar with both DACH and Riwaq databases; less than half (five) were familiar with PADIS and with WBEJAD; Three were familiar with the SOA's database; one was familiar with their own database (which was not listed as an option); and one was not familiar with any of the databases mentioned.

When asked whether they used a database or GIS for archaeological projects relating to Jericho (Question 3), almost half of the respondents said they were using at least one database and/or using GIS; a third answered that they did not use a database and/or GIS, but thought they might be useful for them; and a quarter said that they did not use GIS or a database, but they either received their data from another source that did, or they did not find that kind of information useful for their role in the project (see Fig. 8.7). All of those indicating the use of one or more databases, as well as those indicating the use of GIS, were related to Palestinian institutions (governmental/municipal, NGO or university). Respondents affiliated with international organisations did not use these systems directly; however, they indicated that either (1) the use of databases/GIS might be useful for them, (2) they had indirect access to data, or (3) they did not consider them important for their specific work.

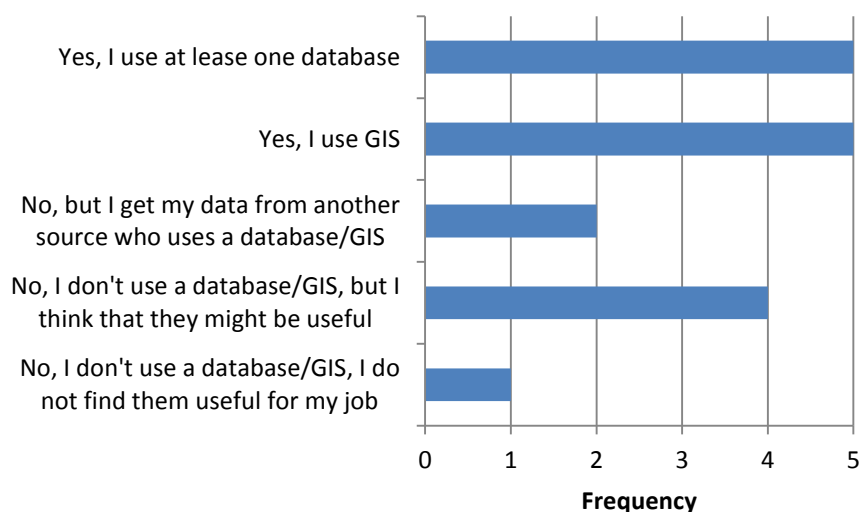


Fig. 8.7: Frequency of responses to Question 3.



Questions 4 to 9 related specifically to database users. In Question 4, respondents were asked to specify the cases in which they needed to use databases and/or GIS when conducting an archaeological project or making decisions relating to the management of heritage in Jericho. This question was open-ended, and received seven replies. Respondents indicated a variety of uses for databases and/or GIS, including the following:

- Surface surveys (mentioned twice)
- Excavations
- General cultural heritage management purposes (mentioned twice)
- Learning about the distribution of archaeological sites within the municipal boundaries of Jericho in order to propose buffer zones for the management of archaeological sites
- Monitor sites' state of conservation and conservation activities (mentioned twice)
- Historical analysis according to distribution of sites
- Learning about previous fieldwork conducted in the area
- Presentation to the public, by incorporating site distributions into site maps, signage, brochures and films

Six respondents replied when asked whether they used one or multiple databases (Question 5), most of which (five) indicated they use multiple databases, and one indicated using only one database. Providing more specific information on the types of databases they used (in the free-text space), respondents indicated the following platforms, databases and other resources:

- GIS (mentioned twice; no specific GIS software was indicated)
- SQL database (mentioned twice)
- Access database (mentioned twice)
- Excel (mentioned twice)
- AutoCAD
- Published resources
- Personal interviews
- DACH database
- Riwaq database (mentioned three times)
- Fieldwork database

When asked whether they were satisfied with the one database they used (in case of using only one) or whether other databases can be of further assistance (Question 6), the six

respondents replied that they already used more than one database (four), or that they thought they could benefit from other databases (two).

Seven respondents answered Question 7, asking their opinions about the historical, practical or academic factors in the last century or so which mostly affected the character of information available in the databases that they used. In this open-ended question, respondents indicated a variety of factors affecting current databases, including the following:

- Development of ArcView and GIS
- Development of databases and migration from manual to digital methods
- Comprehensiveness of inventories
- Accuracy of publications
- Lack of reliable data
- Lack of specialists in the field
- Accessibility
- Political conflicts
- Biblical archaeology, promoted by foreign expeditions since the 19<sup>th</sup> century, resulting in biased presentation and interpretation

Seven respondents replied to Question 8, asking whether they were aware of drawbacks, biases or limitations in the database(s) that they used. Four respondents considered the database(s) they used to be good enough for their needs, while three respondents indicated that they were aware of some problems or limitations. They further specified these issues, denoting an inaccuracy of field data (mentioned twice), superficial data or missing data.

In Question 9, respondents were asked to give their opinions about how databases and GIS platforms they are familiar with should be improved. Eight respondents answered this question (see Fig. 8.8), all which thought that the database/GIS platform should be more accessible (to them or to others), while most of them thought that the platform should be more user-friendly. A minority of respondents thought the management system should operate on a different platform and/or that the GIS platform should include more data. No one chose either of the options proposing that the database's structure should be altered (either by adding new fields of data or by eliminating existing database fields). Two additional comments indicated that: (1) the GIS platform should be part of a holistic

database which included all aspects of cultural heritage; and (2) an archaeological and cultural heritage database should exist for the use of archaeologists; this database should be user-friendly, as currently there is some redundant data.

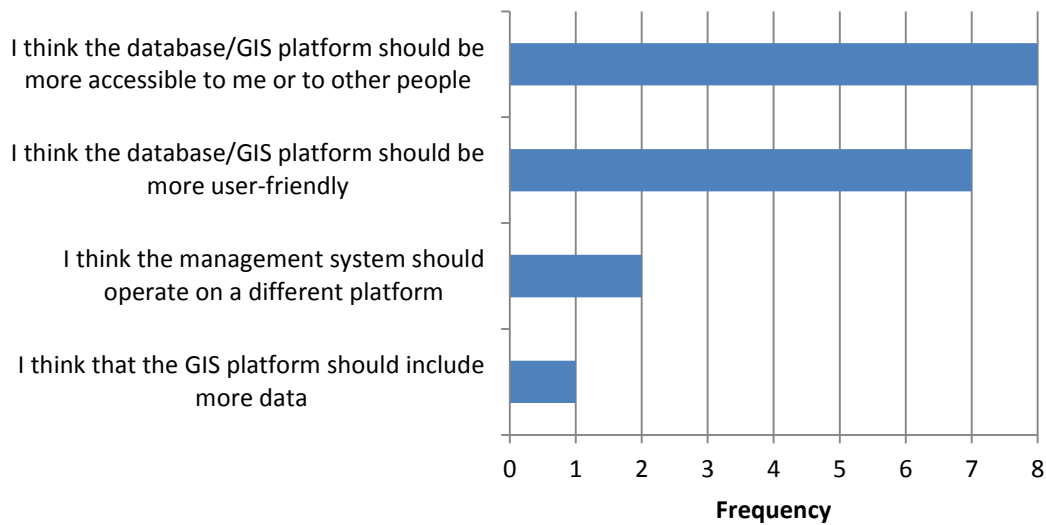


Fig. 8.8: Frequency of responses to Question 9.

Question 10 targeted all respondents and asked for their prioritisation of different activities to enhance current information in databases relating to the Jericho area. All twelve respondents replied to this question, by ranking nine different options from 1 (most important) to 9 (least important). In addition, three comments were included in the free-text space. Table 1 indicates the frequency of each ranking (from 1 to 9) for every option:

	Rank	1	2	3	4	5	6	7	8	9
<b>More detailed archival research</b>		2	3	2	1	1	0	2	0	1
<b>Better integration of existing datasets</b>		2	4	3	1	0	0	1	1	0
<b>More use of historic aerial photos</b>		1	1	1	0	3	2	2	2	0
<b>Further excavations</b>		3	0	0	2	1	0	0	2	4
<b>Further surface collection surveys</b>		0	1	2	4	3	0	1	1	0
<b>Exact demarcation of sites (e.g. via GPS, total station, etc)</b>		0	2	2	1	1	4	2	0	0
<b>Full survey of site topography (e.g. via GPS, total station, LiDAR or traditional methods)</b>		3	1	0	0	2	1	3	1	1
<b>Remote sensing (e.g. modern aerial and/or satellite imaging)</b>		1	0	2	2	0	3	0	3	1
<b>Geophysical survey (e.g. resistivity, magnetometry, GPR)</b>		0	0	0	1	1	2	1	2	5

Table 8.1: Frequency of rankings from 1 (most important) to 9 (least important) for each of the available options.

Some trends could be discerned from the respondents' prioritisations:

1. Most respondents chose the option of 'better integration of existing datasets' as one of their top three options (Fig. 8.9)
2. More than half of the respondents chose the option of 'more detailed archival research' as one of their top three options (Fig. 8.10)
3. The 'further excavations' option received the most polarised rankings, where a quarter of the respondents chose it as their first option, and half of them chose it as one of their last two options (Fig. 8.11)
4. Almost half of the respondents chose 'geophysical survey' as their last option. This option was not chosen by anyone as one of their first three options (Fig. 8.12)

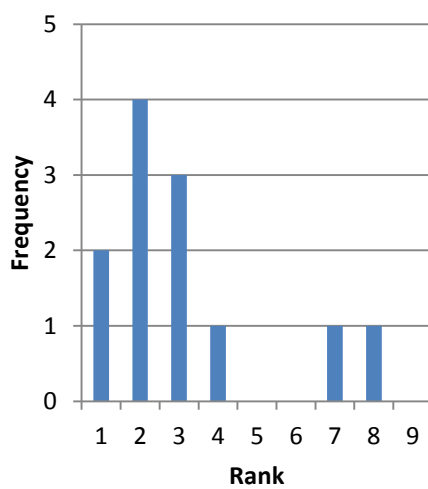


Fig. 8.9: Frequency of rankings for the option "better integration of existing datasets".

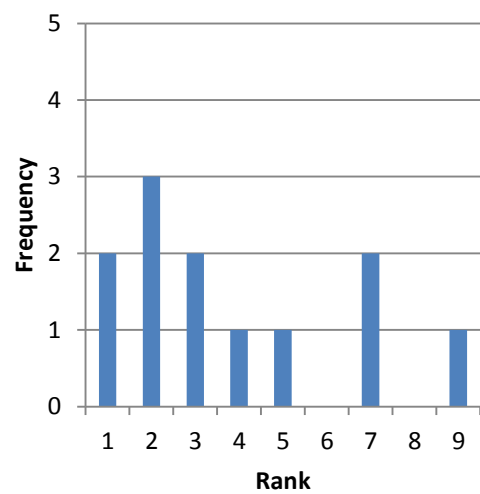


Fig. 8.10: Frequency of rankings for the option "more detailed archival research".

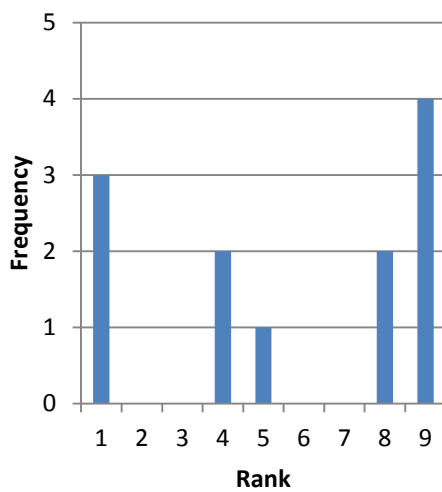


Fig. 8.11: Frequency of rankings for the option "further excavations".

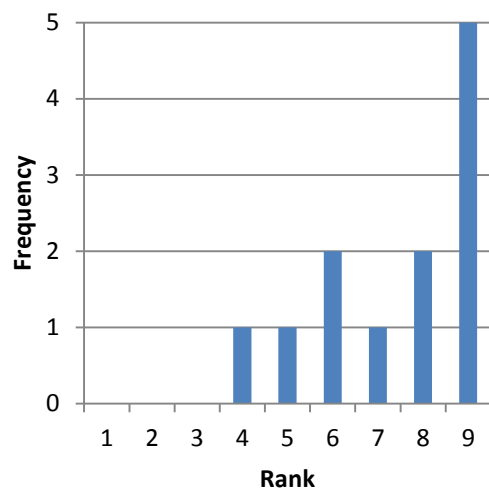


Fig. 8.12: Frequency of rankings for the option "geophysical survey (e.g. resistivity, magnetometry, GPR)".

Grouping options 1 to 3 as ‘archival work’ and options 4 to 9 as ‘fieldwork’, I compared the relative frequency of prioritisations for each of the two groups (Fig. 8.13). The results demonstrate that the general preference among stakeholders is to focus on further integration and organisation of existing data rather than the collection of new data in the field by surveys or excavations.

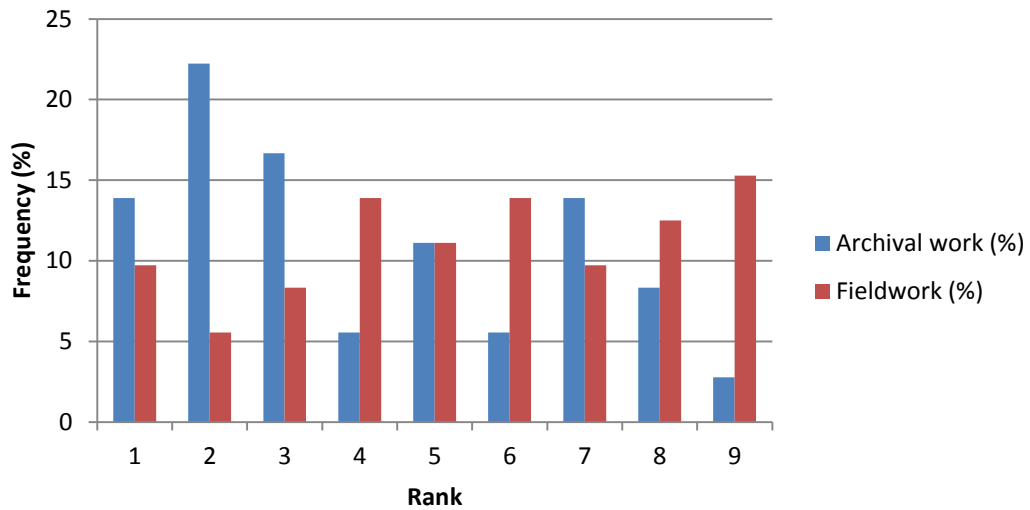


Fig. 8.13: Distribution of respondents' preferences of further data enhancements, divided into archival work and fieldwork.

Responses to this question included three additional comments. One respondent suggested the need to focus on better integration of existing data while leaving further data collection (especially excavations) to the future, due to a more urgent need to update systematic data available in Palestinian governmental departments. Another respondent, indicating his/her point of view as a manager, also prioritised the improvement of existing databases, combined with non-intrusive surveys. He/she indicated that, if seeking to answer specific archaeological research questions, the prioritisation of activities for this question would have been different; this is because current research cannot be done effectively on previously excavated material due to problematic methodologies; therefore there is much to be learnt from further properly recorded excavations and recovery of assemblages.

Question 11 asked about accessibility to archaeological data, when not published in academic or professional literature. All twelve replied to this question, out of which ten specified having accessibility issues: seven indicated not having enough access to data, or

needing to make an extra effort in order to get data; two indicated having no access to data and having to rely on a third-party to supply them with needed data; and one respondent, working in a Palestinian university, replied that he/she has no access to data at all. Only two respondents indicated that they currently enjoyed “quick and easy access to any information”, both of which work for a Palestinian governmental or municipal institution (the other two working for such institutions indicated that they did have accessibility issues).

This question was followed by Question 12, asking whether respondents were satisfied with their level of accessibility to data. While the same two that claimed to have no accessibility issues (from the previous question) indicated they were happy with the way things were, the rest indicated that they wished for better accessibility and/or information in another language. Most of them also indicated they wished they had quicker and easier access to more data before making decisions (see Fig. 8.14).

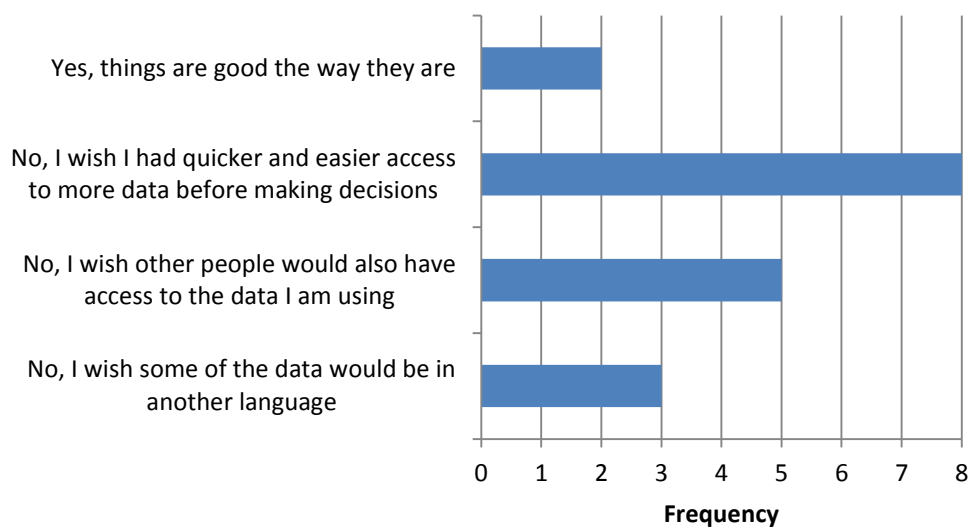


Fig. 8.14: Frequency of responses about levels of accessibility.

In Question 13, respondents were asked whether they thought some or all of the data they are familiar with should be accessible to the general public, and if so, in what ways. While all twelve respondents thought that at least some of the data should be available to the public, the results split into two major positions: seven respondents indicated that “everything should be available and transparent to the public”, whereas eight indicated that only some of the data should be accessible to the public, through academic

publications or journals (five responses), and/or online, as part of a website (three responses).

Question 14, concluding the survey, asked whether respondents were influenced by the current political situation in Israel/Palestine, when conducting an archaeological project or when making decisions relating to heritage management in Jericho. Most respondents (ten) indicated “Yes”, and nine respondents added comments in the free-text space, providing an insight into the ways in which the political situation affected their work:

- The division of jurisdiction after the Oslo Accords has an impact on fieldwork, in two main aspects: (1) inaccessibility to some sites because they are in Area C (under full Israeli control), and (2) problems devising a management strategy (five respondents shared this view)
- Inaccessibility to material excavated in the past, for either research or educational purposes (two respondents shared this view)
- Publications in a language not known
- Illicit excavations resulting from bad economic situation and lack of control
- Limitation of the type of work that can be done
- Limitation of potential project partners
- Transportation of archaeological equipment into the Palestinian territories
- Inaccessibility in the field: avoiding areas patrolled by Israeli soldiers
- Ideological manipulation of archaeological research
- The conflict was an indirect impetus for choosing to work in the West Bank and contribute to the Palestinian archaeological discipline

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#### 8.3.4 DISCUSSION

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Much can be learnt about different aspects of the use of databases and GIS for archaeology and heritage management in the Jericho Oasis. The variety of respondents, coming from diverse backgrounds and working in different institutions, allows for some comparisons of perspectives and attitudes. It is evident that there is great familiarity with different available databases, even on the part of stakeholders not using them for their work. Naturally, most respondents were more familiar with the two major Palestinian databases, those of DACH and Riwaq, as according to this questionnaire, database and GIS use is more frequent among Palestinian institutions rather than foreign ones. Another interesting

aspect of database use and familiarity was emphasised by the mention of people developing and using their own database. It is therefore important to take note of the fact that there are smaller, project-oriented databases that are being used by and known to a very limited group of people. It is also clear that most database users use more than one database for their work, but that, according to the additional comments made by respondents, there was confusion about what 'database' stood for, since many indicated the technological platform or software that they use, while others mentioned databases by their names, which was the initial goal. Therefore, answers to Questions 5 and 6 must be treated with caution as the existing answers may not always imply that users actually use at least two different inventories for their work.

There is a general awareness to a variety of factors affecting present-day databases. While the impact of technological developments such as digitisation of information (databases) and maps (GIS) were mentioned, most responses focused on the negative aspects influencing current inventories. These include issues of faulty methodology or constraints on data collection, resulting in inaccurate or incomprehensive information, issues of accessibility to data, and the prominent biblical agenda of researchers in the region, resulting in biased data. As a result of these and other factors, stakeholders are aware of drawbacks, biases or limitations in the databases they use, in particular originating from inaccuracy of field data, missing or insufficient data in databases.

This questionnaire also looked into the ways stakeholders think current database and GIS platforms should be improved and enhanced. Respondents were unanimous about the need for better accessibility to data, while almost all of them thought databases should be more user-friendly. Another important issue that was acknowledged was the necessity of a holistic database, which would not only include archaeological data, but also data on all other aspects of cultural heritage. As demonstrated by Fig. 8.13, the general preference among stakeholders was to focus more on archival work (especially on a better integration of existing datasets), and less on new fieldwork. When referring to additional excavations as a method of database enhancements, the results were interestingly polarised (Fig. 8.11), although, in general, stakeholders considered excavations to be a very low priority. Another clear trend for database enhancement was the low prioritisation for 'geophysical survey' option (Fig. 8.12); while it is possible that prioritisations for this option were skewed by the fact that it came last in the list of options to rank in the questionnaire, it is more likely that this option was not popular since



geophysical surveys tend to be expensive, difficult to implement, not applicable to all forms of terrain, and at times receive poor results.

These results may be due to the existence of two separate viewpoints among stakeholders – those of the archaeologists and those of the heritage managers. As previously discussed (see Sections 2.2, 6.3.3), there is a tension between the values of these two groups of stakeholders, the former aspiring to gain scholarly knowledge and therefore are research-oriented, and the latter aiming to mitigate heritage management issues and therefore pursue enhanced practices and strategies. The polarised opinions on the importance of excavations may exemplify this tension: while the academic archaeologist hopes to retrieve new data and answer research questions, the heritage manager strives for better organisation of current data. This is corroborated by the list of database uses compiled from stakeholders' answers, which reflected more emphasis on different cultural heritage management activities, rather than the retrieval of archaeological knowledge for the sake of academic research. Therefore, it seems that some of the results of this questionnaire reflect a mixture of values of different types of stakeholders.

Another important issue was also brought forth by this questionnaire, and that is its users' relative access to data. It is evident that most stakeholders have to make do with only limited access to data for their work. Even those stakeholders not using a database or GIS platform directly, either get their data from regular database users, or otherwise feel they can benefit from such platforms themselves. These indications further strengthen the necessity of robust, comprehensive and accessible databases. Despite this pressing need, most respondents feel that they do not have enough access to relevant data, while all agree there is a need for a more accessible management system. Accessibility problems were more acute on the personal level, as most respondents were dissatisfied with their own restricted access to data, but many respondents also indicated they wished other people had access to data that they were using (Fig. 8.14). A related possible issue was the existence of linguistic barriers to data, although this was not stressed as a major concern (this issue had been previously tackled; see van der Linde and Williams 2006, 124). When cross-checking responses with the institutional background of the respondents, it became evident that only respondents working for Palestinian governmental or municipal institutions considered themselves satisfied with their level of accessibility to data (professionals working in NGOs or academic institutions were much less satisfied). We can learn from this about the hierarchy of data 'ownership' among the different institutions practicing archaeology or cultural heritage management. When it comes to accessibility of

the general public, respondents were unanimous in their opinions that at least some of the data should be available to the public. This further supports their general aspiration towards an easier, faster and better access to information.

Stakeholders also referred to a variety of ways in which the current Israeli-Palestinian conflict may influence decision-making. Most responses focused on practical implications of the conflict, especially problems of physical access to areas controlled by Israel (Area C) or access to excavated materials. Others mentioned that the current situation limits their possible choice of project partners, as well as the types of projects that they can run. Access to and quality of information was other consequence of the conflict mentioned, in cases where data gets published in an unknown language, eventually limiting available information about sites, and where data is being ideologically manipulated in order to support specific research agendas. There was also an indication by one respondent mentioning the political conflict as a cause influencing inventories, but it was unclear how in their opinion this influence was manifested.

#### 8.4 SUMMARY

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This chapter focused on the Jericho Oasis as a second case study examining databases in detail, in order to extract conclusions on the greater case of the West Bank. The description and an in-depth analysis of four databases revealed that, to a great extent, they complement each other as their scale of coverage is rather diverse, and they exhibit different levels of accuracy and different tempos of updating. It was also evident that the political situation had implications on data collection and as a result on the final corpus of data created by Israelis and Palestinians. The survey results, presented in the second part of this chapter, further corroborate observations about the quality of databases, their limitations and issues of accessibility, as discussed in previous chapters. Via these results, we can better understand not only the ways databases and GIS are being used for heritage management and archaeology, but also the steps that need to be taken in order to improve database use, enhance data stored within databases, and by that contribute to a more efficient and sustainable cultural heritage management in Jericho. The next chapter addresses the second part of this case study, and examines the opinions of professional archaeologists, heritage practitioners and students, regarding documentation and data use. By investigating the ways archaeological sites or landscapes may be perceived

differently by different people, either when physically visited or when explored via a digital platform, I will further expose the subjectivity associated with how inventories are generated, and how the results may then have knock-on impacts on decision-making in cultural heritage management.

## CHAPTER 9. JERICHO OASIS CASE STUDY – PART 2

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### 9.1 INTRODUCTION

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This chapter comprises of the second part of the Jericho Oasis case study, focusing on additional aspects of databases and GIS. It examines perspectives and opinions of archaeologists, cultural heritage practitioners and archaeology students, with regards to the role of databases and GIS layers in heritage management decision-making processes. By approaching professionals and students, the main aim of this chapter is to examine the impact of individuals' personal values and previous knowledge on decision-making relating to cultural heritage management.

The first section (9.2) of this chapter includes the second part of the questionnaire distributed among professional archaeologists and cultural heritage practitioners, having conducted projects in Jericho (following the first part, see Section 8.3). The next section (9.3) discusses a class-led exercise, in which students can dynamically interact with different databases and make decisions about site boundaries using available data. The last section (9.4) includes the results of a field exercise, simulating processes of data recording in the field, and conducted by archaeology students surveying the surroundings of the site of Hisham's Palace. In combination, these different methods can provide a more robust knowledge about perceptions and uses of data among stakeholders and students working in the Jericho Oasis, and offer another angle of the role of archaeological databases and GIS in heritage management in the West Bank.

### 9.2 STAKEHOLDERS QUESTIONNAIRE – PART 2

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#### 9.2.1 AIMS

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The main aim of the second part of the questionnaire is to examine another aspect of documentation and decision-making – the demarcation of boundaries of management zones, i.e. areas that merit more focused protection strategies and presentation to the

public. More specifically, it aims to understand the potential role of databases and GIS layers in decision-making relating to boundary demarcation, by exploring what types of data might affect this type of boundary-making, as well as the relative impact of an individual's own values and previous knowledge. Lacking a clear methodology for deciding on the boundaries of an archaeological site's area for enhanced protection, the subjectivity of this type of decision-making processes is worth exploring.

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## 9.2.2 METHODOLOGY

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The questionnaire was delivered to stakeholders via e-mail as three pdf files. As previously mentioned (Section 2.3.4), it was divided into three parts, as the gradual presentation of data to respondents was crucial for understanding whether and how inventorial or spatial data affected their perceptions and decisions (see Appendix Ib for the full-version questionnaire). For the second part of the questionnaire, I chose a nested strategy: it was sent only to those stakeholders who answered the first part of the questionnaire, and who agreed to participate in the second part as well. The sample size for this questionnaire was therefore seven professionals.

The first pdf file (Stage 1) presented the respondents with three satellite images: the Jericho Oasis; Tell es-Sultan and its environs; and Qasr Hisham (Khirbet el-Mafjar) and its environs. Respondents were asked to inspect the images, and to draw a boundary of the zone they would consider to be the 'Archaeological Park' of Jericho and the optimal 'management zones' for the two above mentioned archaeological sites. For each of the three boundary demarcation, respondents were presented with a list of decision-aiding factors and were asked to tick the ones that they considered when choosing their boundaries. The second pdf file (Stage 2) presented the same satellite images, but this time including additional data on each of the three zones. This data included the following GIS layers: Areas of jurisdiction (Areas A and C), the Jericho Oasis, and Palestinian and Jewish settlements. The added information also covered data from the WBEJAD database, DACH database, Riwaq inventory, and SOA's spatial layers of archaeological sites. Respondents were then asked to complete the exact same task as in the previous stage (i.e. demarcating boundaries of 'management zones'), this time while inspecting additional information. In addition, for each of the three areas, they were asked to indicate which GIS layers and databases they found to be useful when making decisions on boundaries. The third pdf file

(Stage 3) presented GIS-generated maps of Jericho and its environs. Each map included data from one of the above mentioned databases, and the last map combined all of the available data for this area. Respondents were asked to review these maps, and then to answer one question, about whether the presentation of different GIS layers and data deriving from different sources had an impact on the way they perceived the archaeological landscape of the Jericho Oasis.

Since only one respondent completed the full questionnaire, it was decided to attempt to retrieve the same information via a simple e-mail which posed the following three questions, and read as follows:

“If you were asked to decide on the boundaries of a management zone (i.e. an area that would receive further protection, conservation and presentation to the public) of a specific archaeological site, or for the entire area of Jericho:

1. What types of data would you find helpful when making decisions regarding boundaries (e.g. land ownership, distribution of sites, urban/natural landscape, etc)?
2. In your opinion, to what extent will your own previous knowledge of Jericho and its surroundings be of use when making such decisions, as opposed to spatial data (e.g. GIS layers, distribution of archaeological sites) presented to you?
3. What data sources would you find most crucial to your decisions?”

This e-mail was sent to all eighteen stakeholders who originally received the first part of the questionnaire.

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## 9.2.3 RESULTS

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### 9.2.3.1 QUESTIONNAIRE

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As mentioned above, this questionnaire received only one response, from a person working in the Palestinian DACH. A single full questionnaire return must of course be treated very cautiously in terms of how representative of a wider group’s opinions, but it

could nonetheless raise some important issues. Therefore, this response is briefly described here:

In Stage 1 of the questionnaire, the respondent demarcated two different types of boundaries: the first was for an Archaeological Park (red), and the second was for a Management Zone (blue; Figs. 9.1-9.3). For the Jericho Oasis, the area chosen as an optimal Management Zone included the entire built area of the city of Jericho and the agricultural fields east and south of the city, while the Archaeological Park encompassed this area in addition to a vast area to its east, bordered by the Jordan River. For Tell es-Sultan and Qasr Hisham, the boundaries for a Management Zone included the Tell or the palace itself and an area around it (Figs. 9.2, 9.3). The boundaries chosen for the Archaeological Park were larger, including the Management Zone and some additional areas. The factors considered when making boundary decisions for the above three zones were: (1) further protection of the whole area chosen; (2) included buffer zone around the designated protected area; (3) visual settings (urban and natural landscape); (4) distribution of archaeological sites and elements previously known to the respondent.



Fig. 9.1: Boundary demarcations for the Jericho Oasis (Stage 1): Archaeological Park (red) and Management Zone (blue). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.





Fig. 9.2: Boundary demarcations for Tell es-Sultan (Stage 1). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.



Fig. 9.3: Boundary demarcations for Qasr Hisham (Stage 1). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

In Stage 2 of the questionnaire, after being presented with additional information deriving from GIS layers and archaeological databases, the respondent chose slightly different boundaries for the Jericho Archaeological Park (Fig. 9.4), while the new Archaeological Park boundaries for both Tell es-Sultan and Qasr Hisham were identical to the original boundaries demarcated in the previous stage (Figs. 9.5, 9.6). When asked which of the maps provided in this stage were helpful when making boundary decisions, for Tell es-



Sultan two maps were chosen: the one presenting WBEJAD data (Option A), and the one presenting all databases data (Option E), and for Qasr Hisham – the one presenting DACH data (Option B), and the one presenting all databases data (Option D). Other factors that were indicated as influencing boundary decisions were “land use, private properties, private tourism service companies, and the refugee camps”.

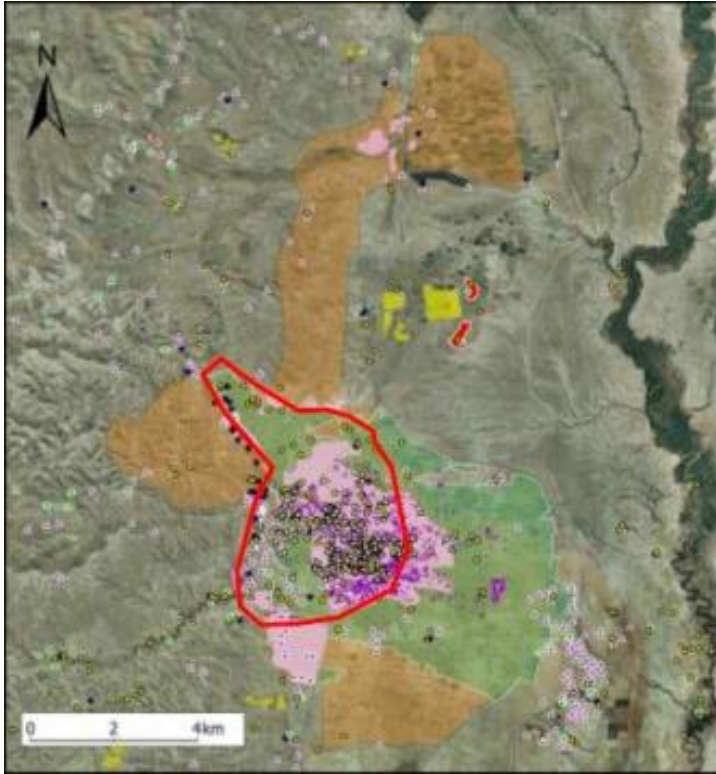


Fig. 9.4: New boundary demarcations for the Jericho Oasis (Stage 2). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

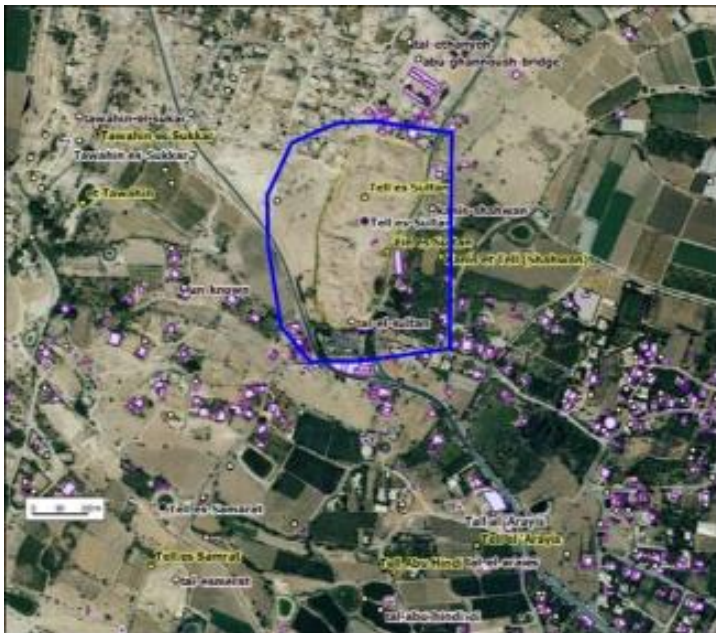


Fig. 9.5: New boundary demarcations for the Tell es-Sultan (Stage 2). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.



Fig. 9.6: New boundary demarcations for the Qasr Hisham (Stage 2). Satellite image courtesy of the S. Daniel Abraham Center for Middle East Peace.

In Stage 3 of the questionnaire, the respondent indicated that viewing different GIS layers and data deriving from different sources had an impact on their perception of the Jericho landscape. GIS layers facilitated a broader perception of the area, and viewing data from different datasets contributed to a better understanding of the area, and to how different data on the same area may be diverse and complementary.

#### 9.2.3.2 E-MAIL

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Despite the reduced content of the follow-up email questions, only two respondents, working in the Palestinian DACH, answered the three questions posed. These will be described here briefly, in order to learn about potential issues raised in the context of boundary demarcation.

When asked about the most helpful types of data for considering management boundaries, the respondents indicated information on cultural heritage sites, including their distribution in the landscape, their types and possible values, location and relationship with other sites in the same area; catchment area and subsistence patterns; land-use – both present-day and planned; jurisdiction issues; ownership; budget and information on recent changes in the landscape. One respondent also mentioned that in practice, the human-related parameters, i.e. issues of ownership, land-use, human or financial

resources, are more important for decision-making than the scientific/academic parameters relating to the cultural values of the archaeological landscape.

The second question aimed at uncovering the relative impact of a professional's own knowledge and experience, as opposed to spatial data presented to them, in the process of decision-making. While the first respondent did not provide a clear response, the second respondent maintained that, despite their working as a cultural heritage professional in Jericho for the last decade, they believe that their personal knowledge does not suffice for designating protection zones, and that spatial data constitutes the basic information needed for making decisions on protection zones. Therefore, personal knowledge and spatial data should be used in conjunction when making such decisions. The third question inquired into the sources of data that professionals would find most crucial for decision-making. While the first respondent again did not directly answer the question, the second respondent indicated that the most important data sources are DACH's archive, data of the Municipality of Jericho and data collected from the local residents of Jericho.

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#### 9.2.4 DISCUSSION

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Since the questionnaire was completed by only one respondent and the e-mail was answered by two, there is no possibility of comparison between other different or similar points of view. This limits the analysis and interpretation of results in this section to a great extent. However, the questionnaire itself can be viewed as a method for future research, and responses described above did raise a few interesting and important issues relating to boundary demarcation; therefore, these will be discussed here.

First, the questionnaire response revealed the importance of previous knowledge of the cultural landscape of Jericho, in addition to experience working with different stakeholders and institutions in this area, in the process of decision-making. However, being presented with additional data did complement the respondent's perception of Jericho's landscape, and raised their awareness about the diversity of data provided by different datasets, and the importance of being able to access additional sources of data for a more effective decision-making. These observations were further corroborated by responses to the e-mail questions, indicating that in spite of the necessity to be

knowledgeable about issues of heritage management in Jericho, spatial archaeological data has a significant role and must be included in heritage management decisions.

Another interesting issue was raised by the questionnaire demarcations. The respondent drew two different boundaries for Stage 1, a management zone and an archaeological park, despite the fact that it was not the question's original intention to separate the two. This is probably due to their contention that a management zone should be treated differently than an archaeological park, and therefore, as they require different management needs. This conclusion conforms to a relatively recent discussion of areas of management in Jericho, maintaining that the boundaries of management zones and those of archaeological parks need not be the same (van der Linde and Williams 2006, 123). In fact, decisions should be made regarding *multiple* boundaries, taking into consideration the complexities of land ownership and the distribution of archaeological features and monuments in the landscape (*ibid.*). As reflected by the respondent's choices of boundaries in all three cases (Jericho Oasis, Tell es-Sultan and Hisham's Palace), the management zone was demarcated as smaller than the archaeological park. This demonstrates a preference of more focused areas designated for enhanced management, while larger areas around a site or around Jericho symbolise unified archaeological landscapes that should be perceived as cohesive landscape units.

As it appears from responses to the questionnaire and e-mail, there is a need for a management system that would spatially represent not only archaeological sites or architectural features, an evaluation of their significance and their relation to the landscape, but also practicalities such as land use, in order for it to function as a more pragmatic system for decision-making. This was already indicated in the context of Jericho by Nigro, an architect planning an archaeological park for the Jericho Oasis (F. Nigro 2006). Discussing the importance of having access to useful data in order to make informed choices when devising a protection and development plan, he asserted that an inventory should be used to define the relationship between "the different resources and the uses of the territory, [and] the regulatory system constraints" (*ibid.*, 196). In addition, the importance of being aware of data obtained from different institutions (e.g. municipal data or DACH archival data) is emphasised, in order to work with diverse and up-to-date information.

Another important issue to address here is the methodology of boundary demarcation. As discussed by Rjoob (2012, 169), there is still no clear and unified methodology, e.g.

“documentation, geo-prospection, aerial surveys, multidisciplinary scientific approach,” for making boundary decisions. In some cases, demarcations of management zones in Jericho are too minimal, leaving out features relating to protected sites without any legal protection (*ibid.*). However, the wider context of significant cultural heritage sites is important to the understanding of ancient landscapes and their exploitation over time. In the Jericho area such elements include, for example, cemeteries or water systems with irrigation networks and aqueducts. This complexity of cultural and natural features poses great challenges when professionals are required to delineate boundaries of archaeological sites (van der Linde and Williams 2006, 122-123; Rjoob 2012, 169-170).

The site of Tell es-Sultan is a good example of the challenge in delineating boundaries (F. Nigro 2006, 203; van der Linde and Williams 2006, 122; Rjoob 2012, 169). While the geographical boundaries of the mound itself are very clear, they do not define the site in its entirety. In its wider cultural context the site includes a cemetery (of which only some of the tombs were mapped) as well as the spring of ‘Ein es-Sultan. Since the exact extent of the site remains unknown, it is important to define a buffer zone around it to ensure a maximal protection.

Overall, the issues described above should be kept in mind when approaching the topic of boundary demarcation for management zones or archaeological parks. The role of GIS in such decisions could be further inquired into, for example its usability as a visual aid or as a decision-making tool. The role of inventories and GIS in decision-making processes should thus be further explored, using the method presented in this section as well as other methods.

## 9.3 JERICHO CLASS-LED BOUNDARIES EXERCISE

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### 9.3.1 AIMS

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In a similar fashion to the previous section (9.2), this section also aims to examine aspects of boundary demarcation for management zones. The aim of the exercise presented here is to look into possible types of data that may or may not affect decision-making processes, when one is required to choose a ‘heritage zone’ as an archaeological park for the Jericho Oasis, including special cultural zones within it. However, the targeted audience observed



in this case is not comprised of specialists as in the previous section, but archaeology students from Birzeit University. By allowing students to dynamically browse archaeological and architectural data deriving from different databases on a Google Earth platform, this exercise aims to simulate processes of real decision-making regarding cultural heritage management zones. Examining students' use of available data and choices of boundaries may lead to a better understanding of the impact which diverse spatial data are likely to have on the perception of archaeological landscape, as explored on a digital platform. This impact, in turn, may affect practical decisions about heritage management issues, and hence is well worth examining.

This Google Earth exercise was delivered to Birzeit University students; however, due to several constraints, it was not completed. Therefore, the following section will briefly discuss the design of the exercise and insights which were hoped to be extracted from potential results. This or a similar exercise could be implemented at in future research, in order to expand our knowledge on the impact of digital data on choices of management zone boundaries.

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### 9.3.2 DESIGN

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The platform chosen for this exercise was Google Earth. This earth viewer was chosen since, for the purpose of this exercise, it was crucial that students are able to browse archaeological data dynamically, as well as view additional information on any site of interest. This is contrary to the previous section, in which static maps used for the questionnaire were generated from a traditional desktop GIS platform – which limited respondents' ability to understand the data (more advantages of Google Earth were discussed in Section 2.3.5). Google Earth was not chosen for the stakeholders' questionnaire because the demarcation of polygons on this platform is more time consuming than using a pdf's drawing tool – therefore it was considered to deter professionals and specialists from participating in the survey.

Students are provided with real data originating from Israeli and Palestinian databases, as well as further spatial layers. The databases used in this exercise are of DACH, Riwaq, SOA, and WBEJAD (surveyed and excavated sites). The spatial layers used in this exercise are: areas of jurisdiction (Areas A, B and C), the area of the Jericho Oasis, and Palestinian and Jewish settlements (including the municipal area of Jericho). All of this data was converted

into KMZ files, which in turn could be opened and browsed with Google Earth. In addition to KMZ files, students are supplied with a printed version of the exercise as back-up (see Appendix V for the full exercise).

The first part of the exercise is dedicated to learning how to use Google Earth, browse data and create, edit and save new polygons. It aims to teach students basic Google Earth skills that would enable them to complete the actual exercise. The following part then includes three tasks, where students are asked to make boundary decisions about significant archaeological areas in Jericho. The first task (Task 1) requires them to demarcate the boundary which they consider to be the optimal management area of an archaeological park of the Jericho Oasis. They are first asked to make this decision and create the relevant polygon when viewing only the satellite image of Jericho, without any additional data. After this first stage, they are asked to switch on the spatial layers provided to them, and then to demarcate a new polygon, in case the viewing of these layers made a difference to their decision. Then, they are asked to switch on all the database layers, which allow them to view archaeological and architectural sites on the general satellite image. They are asked to create a third polygon, in case the additional data influenced their decision on the boundary of the archaeological park. Lastly, students are asked to provide a short explanation of the factors considered when making their choices.

The second task (Task 2) requires students to create polygons of three areas in the Jericho Oasis, which they consider most important to receive further protection and preservation. In this task, all layers of data could be viewed and used in order to make boundary decisions. In addition, students are asked to provide a short explanation of the reasons that made them choose the areas that they did. The third task (Task 3) related to the site of Tell es-Sultan. Students are asked to decide on the boundaries of what they consider to be the optimal management zone for this site. As in the previous task, they could view and use any of the available data, and asked to describe in short their choice of boundary. At the very end of the exercise, some space is left for respondents to add any comments relating to the exercise, such as about the process of demarcation of management zones and decision-making considerations in this process.

The results of the first task in particular could reveal whether viewing spatial data and/or data from different databases could affect the decided area of the archaeological park of Jericho. Task 1 is designed in three stages, each stage revealing more data that could aid boundary choices. This way, it could be made clear what factors influenced decisions, in

addition to respondents' additional explanation regarding their decisions. The second and third tasks aim at boundary demarcation of smaller zones within the Jericho Oasis; potential results to these tasks could reveal if and what types of data affected boundary decision-making. The aim is also to see whether data deriving from different sources helped make decisions. Polygons created by students, in addition to their explanation of choices, could potentially demonstrate how each database on its own was not sufficient for decision-making, and the use of diverse databases in conjunction could maximise availability and presentation of data and therefore contribute to a better understanding of the archaeological landscape, and to more informed decision-making.

In addition, targeting archaeology students, who are not yet specialists but do have some background knowledge about the archaeological of the region, has its aims as well. Potential decisions made by the group of students chosen for this exercise could contribute to what many have termed 'citizen science' (e.g. Bevan 2012, 10). In a reality where the boundaries between the creators and consumers of data are being continuously blurred (e.g. people adding their own spatial data to earth viewers such as Google Earth), it would be interesting to observe how this group of students use professional data and create data on their own. Moreover, while stakeholders rely on previous knowledge in much of their decisions, students are not specialists or knowledge-oriented – therefore they rely almost exclusively on databases' data. Gaining insights into their spatial priorities could, therefore, be significant and thought-provoking.

## 9.4 HISHAM'S PALACE FIELD EXERCISE

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### 9.4.1 AIMS

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The aim of this exercise was to better understand processes of data recording when collecting information for the purpose of archaeological sites' management. The case site chosen for this purpose is one of the most important sites in the Jericho area, Hisham's Palace (Khirbet el-Mafjar). This exercise, conducted during a landscape survey of this site, examined choices and decisions made by Birzeit University and University College London (UCL) students when recording different attributes required to improve site interpretation, visitation and protection, including site condition, potential threats, and the ways in which its management should be improved. Having different people conducting



the same recording procedures may demonstrate how different values, preferences or priorities associated with an archaeological site and its landscape may be introduced into a database in the process of data collection.

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## 9.4.2 METHODOLOGY

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This exercise was delivered during the second season of the Khirbat al-Mafjar Archaeological Project, a joint Birzeit University and UCL landscape survey project around the site of Hisham's Palace (the same project in the course of which the exercise presented in Section 9.3 was delivered). This site, located *ca.* 2 km north of Jericho, is dated to the Umayyad period (first half of the 8<sup>th</sup> century CE). It was extensively excavated by Baramki and Hamilton in the 1930s and 1940s (Hamilton 1959), and recently excavations by Donald Whitcomb of the Oriental Institute in Chicago have resumed at the site (Whitcomb 2011). Birzeit's landscape survey aims at covering the larger area around the palace, with the objective of gaining a better understanding of the cultural and archaeological contexts in which the palace functioned. This is done by recording surviving archaeological features contemporary and relating to the palace, in particular the water supply system and the precinct wall (Hawari 2010a).

The exercise was designed as a recording sheet aimed to be completed by a surveyor while recording an archaeological site's features, boundaries, condition and other issues important for its management (see Appendix III for the full exercise). The students were first asked to record the area of the site using a GPS device, by walking around it and deciding on its boundaries; they were also asked to record the locations of specific features of the site using GPS.<sup>34</sup> Then, they were asked to record the main components of the site (from structural remains to small finds), refer to the physical modern context in which the site currently exists, and describe how accessible or inaccessible the site is.

Next, the students were asked to assess the condition of the site, by referring to issues such as looting, general damage, potential vulnerability of some features, and site maintenance; they were then asked to relate to current threats that the site may be facing.

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<sup>34</sup> This exercise also aimed to examine how different people would demarcate the boundaries of this site using a GPS device; however, due to time constraints, this part of the exercise was not completed.

Following an assessment of the site's condition and potential threats, the students were asked to refer to several management issues: how the site is being maintained, what kind of previous interventions took place at the site, and what values could be ascribed to it. In addition, the students were asked to state what management actions are necessary to be taken, and at what level of urgency. In the last section of the exercise, the students were asked to choose an optimal boundary of a management zone for Hisham's Palace, as an area that should receive further protection, preservation and presentation to the public. They were presented with five options: four satellite images, each includes a different polygon of a management zone, as well as a fifth satellite image upon which they could demarcate their own management zone, in case it was different from all four given options. A printed version of the exercise was distributed among archaeology students involved in the Khirbat al-Mafjar Archaeological Project and was completed on 13 January 2011.

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### 9.4.3 RESULTS

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The exercise was completed by seven students: six Birzeit University students and one UCL student (see Appendix IV for the full results). All seven respondents described the main components of the site as being its architectural features, mostly mentioning the baths or pool as specific examples. In addition, all mentioned the mosaic floors, as well as pottery and other small finds discovered at the site. Other significant elements or features of the site were described by four respondents: these include sculptures which are not *in situ* (located in the Rockefeller Museum in Jerusalem), the elaborate water system surrounding the palace, the mosque, and different decorative elements at the site (e.g. carved stones and wall paintings). Only one respondent mentioned the surrounding wall of the palace's estate. In terms of the site's modern context, all respondents indicated its location within an agricultural area, while most of them (six) mentioned its being close to a modern road. However, only two mentioned that the site is located in proximity to urban development (houses behind the palace), and only one indicated the fact that the site is surrounded by private lands.

When referring to levels of accessibility to the site, almost all respondents indicated that it is generally easy to access the site. Four respondents attested that some parts of the site are inaccessible to the public (the cold bath and the mosaic floor in the hot bath). Only one

respondent pointed out that some parts of the site are inaccessible to disabled visitors (e.g. where access is only possible using stairs); only one related to accessibility to the water system's elements outside of the palace; one mentioned that the tickets are cheap (i.e. visiting the site is financially affordable, hence accessible); and one mentioned that there is no guide helping visitors after entering the site. While one indicated that the site can be reached by car, another claimed that there is no direct access to the site by taxis from the city centre.

Students were divided in their opinions when asked to describe the site's general condition. Two of them thought the site was in general good condition and is well maintained; other two thought the site is in relatively fair condition, since some parts are better protected than others; and two other respondents considered the site to be in a poor condition, not being well maintained or protected. Different issues were mentioned by students, such as the vulnerability of mosaics (resulting in their coverage, thus not visible to visitors; mentioned three times), the instability of some parts at the site due to past earthquakes (mentioned twice), graffiti (once), missing stones that were stolen in the past (once), inappropriate past restoration works impacting the site's appearance (once), and erosion evident on some structural elements (once). When asked about the difference in site condition between present and past conditions, four answered that they did not know; two mentioned that now the site is restored, and that despite inharmonious restorations it is in a better condition; while another student indicated that there is no difference between the current site's condition and the way that it was at the times of Hamilton's excavations.

When discussing potential threats to the site, different issues were raised by respondents. Most respondents (six) referred to people visiting the site as a major threat, especially school children climbing on structures, playing and moving stones around; the fact that there is no monitoring of visitors was also mentioned. Another issue mentioned by most respondents (six) was vandalism, especially graffiti and carving on stones (one even witnessing an incident taking place). Only one student indicated that potential looting was a threat, as it is easy to steal elements from the site, while another student did not consider looting to be a problem, since the artifacts were secured in the local museum. Natural risks were not perceived as dangerous as human threats; these included earthquakes (mentioned twice), erosion due to exposure to different weather conditions (twice), and vegetation growth (once). Another issue that was raised was inappropriate development taking place too close to the site, mentioned by three students. General lack

of maintenance at the site (mentioned twice) and insufficient preservation plans (mentioned once) were also considered as threats to the site.

When asked about issues of current management, only one student thought the site was very well maintained. All students mentioned that the site was fenced off, with two of them doubting the efficiency of that fence. One student mentioned specific measures of interventions, such as the placing of ramps in some areas in order to improve accessibility and protect some elements. All students mentioned the placement of signage at the site. They were almost unanimous in their criticism of the signage, mentioning that some areas did not have signage, signs were not detailed or clear enough, and they included only basic information. When asked about previous interventions at the site, most students noted that the site has been excavated, fenced and restored. Some (two) noted that it was recorded, and others (three) mentioned that signage was placed. Referring to the potential values that the site may represent, most students indicated its historic, archaeological, aesthetic, and scientific values. One mentioned specifically an artistic value, while another noted its architectural value. Two students emphasised the site's uniqueness and historic significance.

Different management actions were recommended to be taken place at the site. A majority of the students (five to six) recommended further recording (at times pointing out that not all elements were recorded), monitoring and conservation. Another action, recommended by four, was weeding, gardening or cleaning the site. Other more specific recommendations were made by individual students, such as repairing previous restoration works, further excavations, and taking specific protective measures for building stones, floor surfaces, or even constructing a shed over the entire site. Respondents were of different opinions as for the level of urgency in which actions should be taken. A range of urgency levels were indicated: desirable to necessary (one), necessary (one), necessary to urgent (three), and urgent (two).

Additional comments were provided by students, indicating different opinions and priorities as to how the site should be further promoted. It was clear that all students recognised the importance and uniqueness of the site, especially as evidence to Umayyad period artistic and architectural skills, and wish to see it further developed, preserved, researched and promoted. However, the focus of attention for further action, as referred to by students, was diverse. Four students related to the surrounding landscape of the palace, including the water management system, precinct wall and other remains: two considered

it important to document everything relating to the palace, one of them thought it was important to provide further links of the palace to its surrounding landscape, while the other thought the water system should be conserved. Two students considered it important to disseminate further information and raise awareness to the site: one mentioned websites as a preferred platform, and another mentioned publishing more books about the site. One student regarded the return of artifacts excavated at the site to its local museum as important, while another indicated the importance of paving paths for visitors, while leaving parts of the site inaccessible to visitors for the sake of their protection.

In the last section of the exercise, students were asked to choose their preferred management zone for the palace. Results to this section were at times obscured, when students chose two options instead of one. Option 3, which indicated a management zone as a large area around the site (see Appendix III for the available given options), excluding its water systems and precinct wall, was chosen by two respondents, in addition to choosing the last option, demarcating their own management zone: one partially demarcated an area that excludes agricultural fields east of the palace, but includes further areas to its west (Fig. 9.7); the other demarcated a very large area around the site (Fig. 9.8).



Fig. 9.7: Choice of boundaries of Student 2, in addition to choosing Option 3.





Fig. 9.8: Choice of boundaries of Student 7, in addition to choosing Option 3.

Option 4, indicating a wide area around the palace which included the water management systems and surrounding wall, was chosen by three respondents, one of which also chose to demarcate their own boundary; this comprised of a square around the site with the palace at its middle (Fig. 9.9), an area with similar coverage to Option 3. The remaining two respondents chose to demarcate their own management zone: the first demarcated a very large area, covering more than the known visible remains (Fig. 9.10); the second demarcated an area very similar to Option 4, with a more extended area north-west of the palace (Fig. 9.11). Two options were not chosen by any of the respondents: Option 1, indicating just the palace itself as the management zone, or Option 2, which includes the palace as well as a small area around it.



Fig. 9.9: Choice of boundaries of Student 3, in addition to choosing Option 4.



Fig. 9.10: Choice of boundaries of Student 5.



Fig. 9.11: Choice of boundaries of Student 6.

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#### 9.4.4 DISCUSSION

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Students' responses reflect two complementary trends in their approach to the recording of Hisham's Palace. The first trend is a general agreement among respondents in relation to different aspects of site features, condition, threats and actions that need to be taken. At the same time, a second trend reflects more specific inclinations and priorities, testifying to respondents' diversity of personal values and viewpoints. The description of the site's major components is one of many examples for these intertwined trends: while there was unity in depicting the main features of the palace, some students focused more on the



artistic features prevalent at the site, while others considered the wider archaeological context, which includes features not in the immediate proximity of the palace. Similarly, when referring to different values that may be attributed to the site, there was a general agreement that the site could be ascribed with different types of values – archaeological, historical, aesthetic and scientific values. However, some students focused more on its historical importance, while others emphasised its artistic or architectural achievements.

When it comes to different aspects of site management (such as visitors' experience and site protection and rehabilitation), similar types of variations in the ways the site was viewed could be observed. It was interesting to see how the term 'accessibility' could have slightly different interpretations. While all students referred to it as physical access to the site by visitors, one student had also disabled people in mind; another student thought of the price of the entrance ticket as indicating easy access, since it was affordable; and another student thought of a more 'intellectual' type of access, by mentioning the lack of a guide helping tourists after entering the site. In addition, while all students referred generally to getting to the site by foot, two also considered issues of getting to it by a vehicle.

The ways in which the students perceived the site's condition were very diverse, ranging from good to poor condition. Specific issues were addressed by different respondents, mostly relating to the vulnerability or instability of some features, but also relating to the appearance of the site (such as previous restoration works). Also perceived threats to the site were at times differing. While all students mentioned visitors as the major threat to the site, accelerating its deterioration and damaging its appearance, only some mentioned natural risks (such as erosion, vegetation or earthquakes), or potential threats due to inappropriate construction close to the site. It is interesting to note that climatic and seismic factors, as well as natural stone deterioration, are in fact more prominent agents threatening the site than tourists' visitation (Rjoob 2012, 184 Table 4.2; for further discussions on Hisham's Palace condition, threats and intervention measures, see: Sabelli 2006; Taha 2005b; 2011, 290-291; Rjoob 2012, 180-185). In addition, there were two opposing opinions regarding potential looting at the site (looting is an actual threat vs. looting is not a threat as finds are secured in a museum).

Different approaches to interventions at the site and its further development were also evident from students' answers. It was generally agreed that the site should go through further recording and conservation measures. Some students focused more on the site's



aesthetic appearance (advocating cleaning, weeding or repairing past reconstructions); some prioritised promoting the site through websites and books; some considered further research as very important (through further documentation, excavations or surveys in the surrounding landscape of the palace); and others considered further conservation works to be of high priority. It is also interesting to see general approaches to several aspects of site management among specific individuals: one student, for example, focused more on presentation for tourists (e.g. by improving signs and paths), while another emphasised more the importance of recording.

Examining students' choices of boundaries for a management zone for Hisham's Palace, it seems that, in general, students considered the optimal management area as including all of the features relating to the palace, including the water management system and segments of the surrounding wall. While a couple of students considered a smaller area than that, no one regarded an ideal management zone as including just the palace itself, or the palace and its immediate surroundings. Students' demarcation of boundaries, as their views of the site, potential threats and measures to be taken, reflect a generally similar approach, with some distinct variations. It was observed, however, that their boundary demarcation often reached the edge of the given satellite image; this implies that, if given an even larger map of the area around the palace, parts of it would be included in the chosen boundaries for this site. This means that either some of the students were aware of the precinct wall extending beyond the satellite images available in this exercise (as shown in Hamilton 1959, 2 fig. 1), or that they may choose as large an area as possible for the site's boundaries, without considering actual remains on the ground and the limitations of deciding on a protection zone for the management of a site.

I found it important, nevertheless, to examine boundary demarcation as done by non-professional students (both here and in the preceding section), in addition to observing boundary decisions as made by professionals (Section 9.2), as we may learn about spatial preferences by observing groups of non-specialists, who do not necessarily rely on previous knowledge. It should be noted here that, despite the fact that I chose different platforms for boundary demarcation for stakeholders (pdf) and for students (paper), I do not perceive a demarcation 'bias' potentially caused by the method of demarcating boundaries in these two cases.

The main goal of this exercise was to examine students' choices, priorities, opinions and perceptions of the site of Hisham's Palace while recording it. Attempting at simulating the

process of site recording for the purpose of site management, the results exemplify the introduction of personal values into a potential database of archaeological sites. While general attitudes were similar among respondents when filling in the required details, individual emphases were evident at all recording phases of data collection. These variations in the perceptions of the site could be negligible or trivial, but they could also be conflicting, as demonstrated in references to the site's general condition. It is plausible that critical differences in data recording would not occur among professional surveyors (as opposed to students); however, it is safe to assume that subtle variations would be occurring also when sites are surveyed and documented by professionals. Showing variation in data recording further demonstrates how subjectivity can be introduced into inventories, and how individual perspectives may influence the recording of sites and potentially later on – their management.

## 9.5 SUMMARY

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This chapter had two main objectives: (1) understanding the relative impact of databases and GIS, as well as personal work experience and values, on the management of the archaeological heritage of the Jericho Oasis; and (2) understanding how subjectivity can be introduced into databases in the process of data collection. In spite of a low response rate to the questionnaire and exercises in this chapter, a few interesting insights arose from responses. One of the things learned, for example, was that in the case of students' documentation of a site, some personal tendencies could be introduced into the documentation process. While in general, the different recordings of Hisham's Palace were rather similar and followed similar guidelines, there were variations in preferences, priorities, and viewpoints of students participating in the recording process. These observations and others most probably do not reflect only issues of data collection and management in Jericho alone, but are also issues resonated in archaeological databases and GIS layers in the broader case of the West Bank, as well as beyond. The next chapter incorporates observations made here and in preceding chapters, and forms the main discussion for this dissertation.

## CHAPTER 10. THINKING THROUGH HERITAGE INVENTORIES

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### 10.1 INTRODUCTION

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This study set out to explore various aspects of documentation, recording emphasis, data management and GIS use in the West Bank, by comparing archaeological and architectural inventories on different scales and using different methods. The main aim of this chapter is to synthesise and analyse the information accumulated in the course of this research, with a particular interest in proposing how academic and professional practices in the West Bank or elsewhere might be modified in the light of it. The discussion below begins by returning to the dissertation's research questions and offering some tentative answers and conclusions (Section 10.2). This section will be followed by a set of practical recommendations concerning different issues of data collection and management, inventory upgrading and GIS enhancements, data sharing and accessibility (Section 10.3). Then, an overview of the dissertation's limitations and weaknesses will be introduced (Section 10.4), followed by my views on how certain approaches to archaeological and cultural heritage management in general, and inventory-making in particular, should be encouraged, especially in the light of postcolonial theory (Section 10.5).

### 10.2 RESEARCH QUESTIONS REVISITED

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Five research questions were devised for this study in order to clearly delineate its chief aims (Section 1.2). While the main findings were interpreted and discussed in their relevant chapters, this section synthesises them with respect to each individual question.

Question 1: What is the status quo for the practice of archaeology and cultural heritage management in the West Bank?

This question was addressed directly in Chapter 4 (Sections 4.2 and 4.3), which included overviews of current jurisdiction issues, legal frameworks, and international and local institutions involved in heritage management. This chapter discussed the complexities of archaeological practice and heritage management resulting from the Oslo interim peace

agreement. This new situation entailed different legal systems (local and international), as well as different organisations (governmental bodies, NGOs and academic institutions), operating in various areas of the West Bank. The complexities of these juridical, legal and institutional contexts are important. One of the implications of the current status quo in the West Bank is that Israeli and Palestinian institutions create and maintain systematic archaeological and architectural inventories which are not similar to one another, despite referring to the same geographic region. In order to further understand the inventorial reality in this region, it is crucial to first appreciate the problematic nature of institutions having to work within inconsistent legislative frameworks, a sovereignty-fragmented region, and different types of organisations on both sides, which do not generally cooperate with one another.

Question 2: What current approaches exist for the creation and management of archaeological inventories? How is GIS being used for cultural heritage management? What are the current Israeli and Palestinian approaches to inventory creation and GIS use in the West Bank?

The answer to this question was largely covered by Chapter 5, which introduced the major international guidelines for the creation and use of archaeological and heritage inventories while highlighting the importance of several documentation aspects such as objectives, timing, methodology, content, accessibility, data licensing, users and sustainability. It also demonstrated the use of GIS for recording, protection and management of cultural heritage. Approaches to inventories and GIS, as they are prevalent in the West Bank, often comply with global trends, as also demonstrated by this chapter, even though some documentation aspects are not thoroughly considered. The examination of West Bank archaeological and architectural inventories demonstrated the great variability of documentation projects in this region. On a national scale, the area of the West Bank is covered by four main inventories, two of which are Palestinian and two are Israeli. While these share some similarities, they also reflect different scales and contents, and they are aimed at different audiences. Smaller areas in the West Bank are covered by local, 'thematic' inventories, which usually have a special focus of interest. Many regions have overlapping data originating from different inventories – but these always complement each other as they often use different data sources or are created using different methodologies.

Question 3: What are the effects of political, ideological and social background on the creation of archaeological and architectural inventories in the West Bank? Which factors may introduce bias into inventories? How are existing inventories different from or similar to one another?

The first part of this question was approached in two steps: first, the impact of cultural and socio-political contexts on present-day Israeli and Palestinian archaeological research interests and heritage management priorities was examined (Section 4.4); then, I examined how these interests and priorities have had an impact on inventories (Section 6.2). Israeli data collection through surveys and excavations, as well as inventory-making, reflect special interests in biblical periods and Judeo-Christian sites. This is especially manifested in survey motivations, objectives and methodologies. It seems that values of a biblical-Jewish heritage introduced into Israeli inventories are much more personal and institutional rather than national in character. On the Palestinian side, however, the national aspect seems to be more prominent. The present imbalance of power and dominance over cultural narratives has had an important impact on the ways in which Palestinians approach documentation and inventory creation. The Palestinians have their own documentation priorities, aiming to promote a heritage which is relevant for Palestinian communities in particular. The necessity to promote a Palestinian heritage, occasionally by countering Israeli versions of the past, is closely related to the pressing need to strengthen a collective Palestinian identity and protect it from further erasure and destruction. All of these different issues of preferences, priorities and interests influence the final corpuses of data being created, and, in turn, these have an impact on the audience of the final inventory, be academics, decision-makers or the general public. In addition, this research also examined how the political conflict has had direct impact on current inventories. This issue was addressed in different sections (6.3.3, 7.4.1, 8.2, 8.3), which demonstrated how both Israeli and Palestinian documentation and inventory-making were affected by political tensions, security considerations and jurisdiction issues.

In search of factors that may become agents of bias or subjectivity, several chapters demonstrated how national, institutional and personal values may affect data collection and the final inventories. Chapter 6 (Section 6.2) established how individual Israeli archaeologists have had an impact on data collection through surveys and excavations, by focusing on archaeological aspects that interested them most (e.g. Bronze and Iron Ages) – in addition to Israeli universities conducting excavations according to their specific research priorities. A Palestinian collective resolution to support and encourage nation-

building has also influenced the types of data that are being collected – many of which can be directly affiliated with present day Palestinian communities. Another aspect of personal choice was discussed in Chapters 7 and 9 (Sections 7.4.1, 9.2, 9.3), where it was demonstrated that the demarcation of site boundaries can be very subjective and may vary from one surveyor to another. In addition, a field exercise (Section 9.4) presented the results of students' recording of Hisham's Palace, which also demonstrated variations originating from personal inclinations (e.g. artistic, historic, etc). The attested variations in data collection priorities, documentation methodologies, and the demarcation of site boundaries all demonstrated different ways in which bias or subjectivity can pervade heritage inventories.

The third research question also inquired into differences and similarities among West Bank inventories. These were first exposed in Chapter 5 (Section 5.4), which described the major inventories in detail, followed by comparisons and discussions of various aspects of these inventories in Chapter 6 (Section 6.3). The inventory comparison in Chapter 7 led to many interesting insights into variations between West Bank inventories, especially their levels of scope, resolution and accuracy, as well as the nature of data and levels of coverage for different types of data. Some of these aspects were also discussed in the following Chapter 8 (Section 8.2), which examined and compared data originating from different inventories specifically for the Jericho Oasis. It was observed, for example, that different levels of accessibility to data have implications which were important to outline. The 'open data' approach adopted by the creators of the WBEJAD and Riwaq's registry reflects the growing recognition among Israeli and Palestinian Institutions of the importance of granting full access to archaeological and architectural data, in order to benefit different types of stakeholders. It is also important to question the accuracy and reliability of data stored in inventories, as these may vary greatly; diverse sources of information with inherent inaccuracies or biases eventually determine inventories' reliability. Naturally, the degree to which inventories are being updated or validated is also a key factor in determining their reliability. And finally, GIS users should be aware of the various ways in which inventories' data may lead to 'distorted' maps. GIS-generated maps of West Bank sites reflect issues such as site definition, surveys' coverage and research interests; in turn, these maps may affect the ways in which a cultural landscape is perceived.

Question 4: How might differential access to inventorial data affect decision-making with regard to the management of West Bank archaeological landscapes?

I attempted to answer this question using two different methods described in Chapter 9: first, by a stakeholders' questionnaire (Section 9.2), and second, by an exercise presented to Birzeit University archaeology students (Section 9.3). Both questionnaire and exercise followed a similar design of gradually introduced additional data. Stakeholders and students were asked to demarcate boundaries of management zones of their choice and indicate reasons for their decisions at each stage of the questionnaire/exercise, in order to detect whether, how, and which types of data affected decision-making. The potential analysis of results to both questionnaire and exercise could have shed light on the ways in which data, deriving from different sources, may or may not affect heritage management decision-making. With a low response rate, or the lack of any results, it was hard to provide a clear and founded answer to this research question; however, the methods presented and used in this research could be improved and reapplied in future studies examining the impact of heritage information on decision-making.

Question 5: How can data management be improved in order to enhance present-day and post-conflict cultural heritage management practices?

While a detailed response to this final research question is covered below, the topic of future improvement has already been tackled on a few earlier occasions. The results and analysis presented in Chapter 7 significantly contributed to the discussion of future inventory and data management improvements. Condition assessment of heritage sites, as well as indications of their modern context and of potential risks they are facing, are all necessary steps in order to facilitate more efficient decision-making. The continual updating of heritage inventories with this type of information, in addition to a reassessment of current data stored within them, are necessary steps to be taken to improve heritage management. The stakeholders' questionnaire analysed in Chapter 8 (Section 8.3) provided professionals' points of view on how to improve data management and dissemination. The most important issue raised by this questionnaire was the need of better access to data; other issues, such as the necessities of more user-friendly, as well as more inclusive, holistic databases, were also raised. In addition, there was a general preference among stakeholders to focus more on archival work and less on fieldwork,

when aiming at enhancing currently available data. These issues and others will be taken into account in the recommendations section below.

### 10.3 RECOMMENDATIONS

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This dissertation has analysed major issues relating to archaeological and architectural inventories created by Israeli and Palestinian institutions, including approaches to documentation, inventory character and contents, data accuracy and reliability, accessibility and GIS use. The results suggest that some data management aspects are lacking – but these could be improved and enhanced in different ways. Below I offer a practical set of recommendations for different aspects of data management, with special emphasis on ways to improve the quality and use of current West Bank inventories and GIS, data sharing and accessibility. While all of the following recommendations apply specifically for the case of the West Bank, many could be implemented in other cases of documentation and data management. Some issues affecting West Bank inventories can be seen as a direct result of the present-day political situation and on-going conflict; these include lack of institutional cooperation, the promotion of certain types of archaeology and heritage and the silencing of others, compromised survey coverage due to security issues, and more. However, these issues could also occur in other scenarios and other regions – whether in conflict zones or not. Therefore, many of the following recommendation can be viewed as generic.

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#### 10.3.1 DATA APPRAISAL, EVALUATION AND VALIDATION

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It seems suitable that the first step to be taken by organisations managing data is to make a thorough assessment of current inventories. I would borrow the term “appraisal” from the discipline of archival studies, and while appraisal is considered to be one of the most important functions performed by archivists (see Schaeffer 1992), it is not a very clear stage in creation and maintenance processes of archaeological or heritage inventories. It is important that professionals maintaining inventories should evaluate existing data while at the same time identify gaps in the data by considering what is being excluded from the inventory (as already suggested by Newman 2010). This may be done by collaborating experts following pre-designed evaluation strategies and methodologies. Their



investigations may include examining inventory sources, making comparisons with other inventories, and comparing existing information with updated satellite imagery and aerial photos (UNESCO 2008, 116).

Another form of data assessment includes fieldwork activity, and is closely related to the next section discussing condition and risk assessments. Existing site records should ideally be verified on the ground, in order to estimate their relevance and accuracy. This phase could be a part of a rapid field assessment (discussed below), and while it evaluates the accuracy of inventorial data – it also provides a cursory evaluation of visited heritage sites. In the course of the Gush Etzion survey (Chapter 7), for example, it was noticed that all examined inventories featured records of archaeological sites which were not visible anymore. While some of these were excavated and then completely covered by modern construction, others were destroyed by agricultural activities, and therefore ceased to exist. While information about non-existing sites is valuable for researchers (studying site distributions for a certain period, for example), heritage practitioners focus on existing sites, as these are the ones that require interpretation, presentation, conservation, etc. Therefore, inventory records should include an indication about the status of documented sites: whether they were visible, covered, partially damaged or wholly destroyed.

All processes of evaluation, validation and assessment should result in a detailed description, covering all aspects of the data, methodologies, inventory contents and gaps. This description should never be final – but ever-changing. The objective of this description is twofold: first, to promote transparency and a better understanding of the inventory's nature and extent, for the benefit of inventory users; and second, to provide a comprehensive assessment for the formulation of strategies of inventory improvement. It is important that this description reflects the historical and political contexts and methodologies of record creation, decisions made in the process of data collection and inventory creation, criteria used, and which concepts of value were decisions based on (Cook 2001, 33-34; Cook and Schwartz 2002, 183).

For example, if I was to publish a new inventory from the results of the Gush Etzion survey, I would include a description along the following lines:

- First, I would explain why the inventory was created: in this case, for the purpose of doctoral research, with the main purpose being to assess several inventories. This

description would also indicate the dissertation goals, as well as my own academic, social and political backgrounds (e.g. Section 1.1).

- The methodology of data collection should be detailed: how I prepared for this fieldwork, what documentation procedures I chose to follow, what problems I encountered when conducting the fieldwork, etc (see Section 7.2).
- The structure of the final inventory should be explained: what fields the database includes, what type of information is entered in each database field, to what extent were different aspects documented, what data was chosen not to be documented, and why. For example, for the database field 'Current Management', I chose to describe only visible measurements taken place at the site, and did not consult with the local council or other authorities due to limited time.
- What could be improved in this inventory? For example, the indication of potential threats to sites was done only by me, I dedicated on average half an hour per site, and determined threats according to my own observations. Therefore, it would be advisable in the future to have experts returning to documented sites and contribute their expertise to determine more accurately the risks that sites are facing (see following section).

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### 10.3.2 CONDITION AND RISK ASSESSMENT DATA

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As many sites in the West Bank are vulnerable to different types of threats, their management would greatly benefit from more detailed, updated and efficient databases. Therefore, a necessary improvement which inventories should undergo is updating them with sufficient data on site conditions and the potential risks they are facing. This is especially important for conflict zones or regions which are politically unstable, such as the West Bank – but can be also considered as a crucial step for the management of any cultural landscape. Inventories and GIS should be used not only for data storage, but also for monitoring the archaeological and architectural features in the landscape, in order to ensure their protection. The Gush Etzion case study (Chapter 7) illustrated the importance of determining the physical condition of sites, documenting potential risks and describing their current spatial context, use and level of accessibility. These elements combined are necessary to be known and understood as part of the heritage management environment, and should be included in current inventories and GIS used for management, i.e. the SOA and DACH's systems.

A condition assessment survey of an archaeological or heritage site may include different scales of documentation – from a rapid assessment to laser scanning structures. The documentation of sites condition and potential threats – including textual descriptions, photographs and sketches – is essential for monitoring, planning and decision-making processes (Demas 2002, 39-40; Mitchell *et al.* 2009, 50). However, when facing time and budget constraints, on some occasions a rapid condition assessment may suffice. A relatively basic documentation of site conditions could include taking photographs and combining narrative descriptions and rating systems (e.g. site condition could be indicated as excellent, good, fair, poor, or very poor). It is, however, important to note the problematic nature of such ranking systems. In the Monuments at Risk Survey of England (MARS) project, for example, monuments were categorised as one of three risk bands – high, medium and low (Darvill and Fulton 1998, 218-220). The authors indicated, though, that it was not possible to adequately assess risk for all monuments. Problems arose mainly with sites that had no visible features, but even for the visible ones, the ranking system seemed at times too simplistic and subjective, and occasionally it was also impossible to predict threats such as vandalism or natural disasters, or future mobility between one risk band to another. Therefore, the descriptive aspect of condition assessments is significant, and ideally should be combined with a concise scoring system.

For example, for the Byzantine church in the site of Khirbet Bureikut (visited in the course of the Gush Etzion survey), I ascribed the following brief descriptions and indications:

- *Context:* Inside the Jewish settlement Migdal Oz, in an open area at its northern part. Close to a main road.
- *Condition:* Church: poor; the mosaic is deteriorating due to visitation and vegetation. Rest of the site: good. The area is not much visited, so it is well preserved.
- *Difference* (from previous documentation): Four elaborate mosaics (one in the Nave, one in the Crypt and two in the Aisles of the Narthex) were removed, the simple one (and another small white patch) to the west remained at the site. The northern one: part of it keeps deteriorating, the southern part is now gone.
- *Threats:* Church: erosion, instability, vegetation, visitation, lack of maintenance. Rest of site: None.
- *Accessibility:* It is inside Migdal Oz, so only Israelis can go there (electric gate and guard at the entrance). Physical access is easy, and there is even a parking lot close to the site. Very close to the houses of the settlement.

- *Current Management:* Two or three destroyed signs (one burnt), remains of a fence.
- *Previous Interventions:* Salvage dig at the church that was robbed from its ashlar stones, in 1976; afterwards the church and the structures to the north were fenced, the church was provided with signage.
- *Action Needed:* Necessary: monitoring, conservation.
- *Recommended:* Mosaic conservation, fencing the area, removing vegetation, placing new signs, maintaining the site.
- *Comments:* Were the signs destroyed by locals? Was it because it is a Christian site?

More in-depth condition assessment surveys may include thorough inspections of different aspects of structural remains and other archaeological elements, such as their stability and erosion or deterioration causes and their scales. These assessments may include evaluations of immediate risks, mainly environmental agents (such as vegetation) and human agents (such as looters and vandals). The examination and recording of these factors and their impact would contribute to a better understanding of the causes of damage and destruction as well as deterioration processes and the rate of change in sites' physical condition over time. Keeping track on the status and condition of sites, by continuously going back to the field and by including the results of such assessment visitations in heritage inventories, would help planners better prioritise actions of preservation and conservation, and make them better informed when devising management strategies (Sullivan 1997, 21). However, the frequency of site visitations should be determined according to necessity and constraints. In Scotland, for example, some areas are selected for annual inspections according to generic threats (but not specific ones), and in England there are also regular visitations to archaeological sites for the purpose of monitoring their condition (de Wit and Ziengs 2009, 155, 162).

Following condition assessment surveys, regular maintenance of sites is the most essential act for reducing their rate of deterioration. Using the newly collected data to prioritise future action, different kinds of conservation measures may need to be taken. Naturally, actions should primarily take place at sites which are rapidly disintegrating and require 'first aid' preservation measures. Well-structured and up-to-date inventories, which include data on site conditions over time and changing factors, could facilitate the prioritisation of intervention measures. Inventories could then be used to identify potential heritage at risk, assist in assessing the significance and value of those heritage assets, prioritise actions to address these assets, and develop action plans to secure them.

It is clear that both Palestinians and Israelis have understood the importance of creating a monitoring mechanism that includes indication of site conditions. Ahmed Rjoob, the General Director of Tourism and Antiquities for the South Directorate (Jerusalem, Bethlehem and Hebron), referred to the importance of a systematic documentation indicating deterioration rates of cultural heritage sites; such documentation is especially crucial for prioritising intervention measures at sites (Rjoob 2012, 185). In Israel proper, the Israel Antiquities Authority's latest policy for the conservation of built heritage recommends the establishment of a national and inter-organisational monitoring system that would "collect data on the condition of the sites and the factors leading to deterioration, both those due to natural causes and those resulting from vandalism" (IAA 2009, 20). The IAA is also in the process of designing a GIS-based monitoring system for its own use (M. Cohen, pers. comm.). For the West Bank, the SOA's database does include indications such as sites' context (e.g. open site, inside/near a Jewish/Arab settlement) or whether they were looted or are located within a fire zone; however, information on whether there are plans to construct an actual monitoring system was impossible to obtain.

There are additional steps that could be taken for a more comprehensive assessment of the risks posed to archaeological sites, as some risks cannot be observed merely in regular field surveys. For example, rainfall, soil erosion and other climatic changes may encourage the deterioration of sites in a slower way that is less perceptible during field surveys. In addition, natural disasters such as earthquakes or floods are potentially very dangerous for archaeological sites, as well as human-created pressures such as demographic growth and tourism, but these types of potential threats can be assessed and monitored using appropriate spatial data from national and international hazard monitoring agencies (e.g. the Geological Survey of Israel, governmental ministries of environmental protection, etc). Risk assessments of large landscapes may require multi-disciplinary cooperation as well as holistic planning – as a few different resources, one of which is heritage, are generally being monitored and managed. A GIS is a convenient environment in which to monitor demographic, climatic and water-course changes over time, but any such digital spatial inventory nonetheless still requires repeated visits to sites and documentation of the rate of deterioration (Mitchell *et al.* 2009, 65). In addition, incorporating the knowledge of experts from different disciplines such as architectural conservation, engineering or hydrology, would much enhance our knowledge of site conditions and risks (Demas 2002,

39-40). All of these assessment measures combined would facilitate the prioritisation of interventions at different sites and the overall process of decision-making.

There is a range of risk assessment examinations that can be conducted, such as physical, social, or political assessments, therefore the types and scales of assessment should be decided upon in advance. It is also important to ensure that there is an effective platform to store and manage the collated data – a platform that would allow the development of data over time and comparison of change. Appropriate modifications should be made to an existing database, should it not be initially suitable to accommodate risk assessment data, or otherwise a new database platform should be designed and implemented. In addition, there are diverse risk assessment methodologies, of which the desirable ones should be chosen and adopted. Such methodologies include, for example, climate change impact assessments (such as implemented in Noah's Ark Project, see Sabbioni *et al.* 2010) or geological risk assessments (e.g. Iriarte *et al.* 2010). There are numerous worldwide examples for cultural heritage systems aiming at methodical monitoring and preventive conservation, using different methods or condition and risk assessments, especially for the built heritage (e.g. Santana Quintero *et al.* 2008). As best practice, such systems should follow existing international guidelines for risk assessment and management (e.g. Stovel 1998).

Another risk assessment methodology, which utilises the spatial analysis capabilities of GIS, is predictive modelling. As previously discussed (Section 5.3), predictive modelling is one way to approach risk assessment in the context of heritage management, by estimating the anticipated probability of archaeological sites in different parts of the landscape according to known patterns. Many European countries, however, reject this method when used for registering sites (with the exception of Switzerland), perhaps due to its limitations and deterministic nature (de Wit and Ziengs 2009, 139, 151). In my opinion, since the West Bank is a relatively small region which has been extensively surveyed and researched, predictive modelling would not be the most effective method for designating areas for protection. However, it could prove useful for academic purposes, for example when studying the distribution of sites in a certain period of time and predictive modelling could also be useful in small regions of the West Bank uncovered by surveys, such as areas in the northern Judean Desert.

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### 10.3.3 CULTURAL LANDSCAPES

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It was observed (Sections 5.4, 6.3.4) that Israeli and Palestinian GIS make use of both point data and polygons for the representation of individual archaeological sites or architectural elements. In fact, many worldwide organisations running inventories and using GIS for heritage management use point data representing singular sites. This practice suggests that the cultural heritage of a region is conceived to be a series of elements or sites which are spatially disconnected from one another and from their environmental and historical contexts. Therefore, if one is to query such a database or browse a GIS map, they will be presented with a list of sites or a group of dots plotted against a landscape – but these will probably not convey a full picture of the historical or archaeological significance of that landscape.

Since the management of individual sites is not always a goal in its own right, an approach to the study and understanding of broader landscapes would allow for a better protection and presentation of cultural heritage. In GIS terms, polygons should not define only individual archaeological sites or historical buildings, but also wider cultural landscapes (e.g. Fig. 10.1). They could also represent specific elements within sites, such as structures, installations, excavations areas, etc. Thus, there has been a global growing trend in the formulation of protection policies and their implementation, which advocate a focus at the landscape-scale while acknowledging the inter-connectedness of historical, architectural and archaeological features and their environment as a result of continual interactions between people and their surroundings. This increasing recognition of the ‘cultural landscapes’ concept was also reflected by UNESCO’s World Heritage Convention (UNESCO 1972) and following recommendations and guidelines (Cleere 1995).

In the UK, English Heritage initiated the Historical Landscape Characterisation (HLC) programme, which aims to understand and protect wider cultural landscapes instead of focusing on individual archaeological sites, historic buildings or other isolated features (Fairclough 2001; English Heritage 2013). In practical terms, this programme is concerned with the documentation and characterisation of regions rather than specific sites. Rural and urban landscapes are mapped comprehensively (leaving no ‘empty’ areas on maps) according to different criteria such as land use, field morphology, distributions of archaeological and historical sites, settlement types and patterns, etc. This information





from modern and historic maps, aerial photos and satellite imagery, as well as consulting with existing heritage inventories. These could be complemented with fieldwork documentation, which may include writing descriptions, taking photos and using GPS devices for locational demarcations (English Heritage 2010). GIS mapping is an important tool which can combine all of the above mentioned methods into one system, and is very suitable for landscape characterisation. A good example of such system exists for the Cranborne Chase and West Wiltshire Downs Area of Outstanding Natural Beauty (AONB; CCWWD 2013; see Fig. 10.2). Outside of the UK, the HLC approach was implemented in the Mediterranean, for example, as reflected by Crow and Turner’s work in Greece and Turkey (Crow and Turner 2009; Turner and Crow 2010; Crow *et al.* 2011).

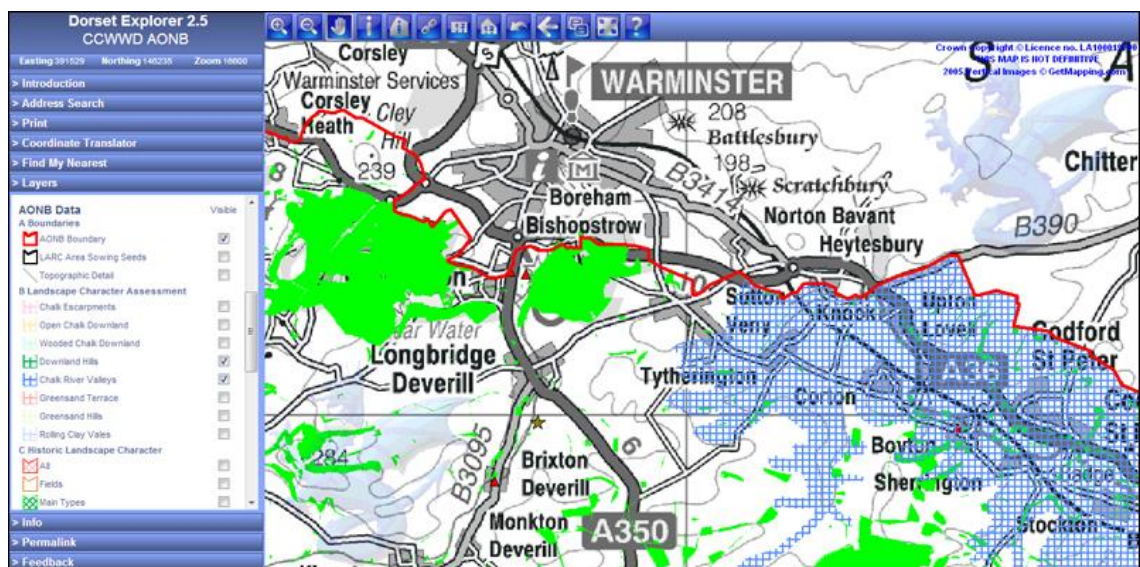


Fig. 10.2: Screenshot from the interactive map on Cranborne Chase and West Wiltshire Downs AONB Website, showing different areas of importance shaded or hatched within the historical landscape.

However, while historical landscapes in England are often incorporated within areas of natural designations such as AONB and National Parks, they do not receive a separate designation (de Wit and Ziengs 2009, 147). This is generally the case in other European countries, where historical landscapes are not listed in inventories as separate entities, but their historical value is often taken into account when considering the listing of individual archaeological sites (*ibid.*, 139). In the West Bank, cultural landscapes are not inventoried as separate units; however, the idea of abandoning the focus on individual sites and starting to treat cultural landscapes as units of research and management is supported by al-Ju’beh (2008b, para. 56). In Israel proper, the IAA has been implementing a similar conservation policy approach referred to as a Territorial Cultural System (TCS), which

integrates different cultural resources, local communities and other regional factors such as ecology and urban planning (e.g. the DELTA project, see Cohen and Ben-Josef 2007).

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#### 10.3.4 GIS ENHANCEMENTS

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As already mentioned, some West Bank inventories such as the WBEJAD and DACH currently prioritise the use of point data for their records, while Riwaq's registry and the SOA's database include polygons to demarcate historical buildings or archaeological sites. Spatial representations of sites in the form of polygons, demonstrating the size, shape and boundaries of archaeological sites and architectural features, as well as their spatial relationships to other landscape features (such as roads, settlements, etc.), are much more informative and useful for heritage management purposes (see Sections 7.4.1, 8.2.2). Therefore, GI Systems used for heritage management should aspire to a more accurate representation of heritage resources, in the form of polygons. However, with the general lack of sufficient standards for site boundary demarcation, decision-making processes are not always clear. One major issue that was apparent in West Bank GIS data is the focus on individual sites as units of research and management. A different approach would consider whole landscapes as more suitable spatial units for management decisions (see previous section). Other problematic issues of defining site boundaries are varying subjective conceptions of space (see Section 3.2.2) and individual decisions on what constitutes part of a site and what does not. Some site demarcations reflect a compromise between what is actually visible and additional estimated information (Sanjuan and Wheatley 1999, 213). In the case of the West Bank, while decisions on demarcating boundaries of historical buildings in Riwaq's registry are fairly straightforward, decisions on boundaries of archaeological sites demarcated by the SOA were not as clear (see Sections 6.3.4, 7.4.1, 8.2.2). This was evident in the Gush Etzion case study, where SOA's polygons representing archaeological sites were compared with my own polygons resulting from decisions on site boundaries while using GPS in the field (Section 7.3.2). The observation that, in most cases, my polygons and those of the SOA were different, it was realised that it was actually unclear what the SOA's polygons were assumed to represent (e.g. architecture, pottery scatter, protection zone, estimated site boundaries, etc), and whether their demarcation followed clear and consistent guidelines.

A feasible, even if partial, solution to apparent subjectivity in site demarcations could be the formulation of boundary demarcation standards, such as those described by Meylemans (2005). His standards include, for example, the demarcation of a 25 metre diameter circle around findspots designated with one set of coordinates; demarcation of precise polygons for visible structures; and, in case site boundaries are imprecise or fuzzy, modern administrative or geomorphological boundaries are indicated instead. Demarcation standards such as these (even though useful only for visible remains and not for buried sites) should be clearly described and available for all GIS users in order to increase their understanding of the data and decisions made in the process of its creation. Another useful suggestion made by Meylemans was to add an 'accuracy indicator' to spatial data. As previously demonstrated (especially in Sections 6.3.2, 7.4.1), West Bank inventories generally reflect different scales of data accuracy. This is due, for example, to the inclusion of different data sources (many of which pre-date GPS use) or a range of potential constraints impeding fieldwork data collection. In order to clarify levels of accuracy for each record, an 'accuracy' field could be added to inventories, accepting ranging values of, for example '1' for very precise, to '5' for very imprecise. Meylemans further suggests that, for clearer and more accurate GIS maps, only records with an accuracy of 1 to 3 should be drawn in the GIS. However, one could also choose to display records of all levels of accuracy (while indicating their differences using colour schemes or symbology), in order to enable users to see different scales of data quality. This strategy could also address uncertainties of site boundaries such as 'fuzzy', unclear or ambiguous boundaries (as discussed in Section 3.3.4). This indication of accuracy is not useful merely for informing GIS users of the accuracy of a record or for map displays, but is also helpful in prioritising which sites should be revisited and re-documented, in order to improve the accuracy of inventory records.

Another recommendation that would upgrade GIS use is rather trivial, but perhaps not always implemented. It is advised to verify that wider GI Systems make use of all available and relevant spatial data which different agencies and organisations are able to provide. This data may include historical air photographs, satellite imagery or cadastral maps, which can add important information and improve the GIS as a management tool. It could also include spatial data of natural heritage and natural landscapes, especially if these are included in protection policies for sustainable development (UNESCO 2008, 147). It should also be considered that additional data could be acquired through remote sensing (e.g. Campana and Forte 2006; Parcak 2009; Cowley 2011). One example of useful data that could be added to West Bank GIS is indicated by Dagan (2006a, 14\*). He mentions a series

of aerial photographs taken by the British Royal Air Force in 1945, from which one can learn about “settlement distribution, the agricultural lands and the system of roads from that time, as well as water sources, based on the paths that lead to them.” Such aerial photos can be of immense importance for a region such as the West Bank, as some of the region’s landscapes have been going through intense changes over time, especially urbanism and the construction of roads. These photos could also be useful for the assessment of the scale and speed of such changes, by adding the time dimension to existing inventorial records.

A final recommendation relating to GIS use in the West Bank relates to the presentation of spatial archaeological and architectural data online. As demonstrated in Section 5.4, the WBEJAD has an online version which includes a searchable map and downloadable spreadsheets; Riwaq’s registry is searchable online but the maps are static rather than dynamic; and DACH and SOA do not offer an online version of their inventories. Online GIS facilitate access to data for professionals and for the general public (see Sections 3.3.5, 6.3.1 and 10.3.6 for further discussions on accessibility to data), therefore it is advisable that organisations should consider making their inventories available online. Naturally, different users may want different types of access to information: while it is likely that academics, NGOs, national and international organisations may prefer having data in its raw format (e.g. Excel sheets, CSV files, etc), the public may prefer a user-friendly online map. I would advocate an online accessibility to both types of data, if possible, in order to facilitate different types of use. A good dynamic map – whether for personal or professional use – should not just include sites-as-dots, but could present users with more information on cultural landscapes or supply more details on specific sites. One example of such resource is an archaeological map available on the website of the Egyptian Center for Documentation of Cultural and Natural Heritage (CULTNAT 2008). This dynamic map enables its users to browse spatial data on three levels: first, sites are displayed as dots on a map; a further selection of a site would display it as a polygon on a satellite image; and the third, most detailed level would display distinct features within a site, such as specific monuments, inscriptions or decorations. With such a system, users can benefit from spatial cultural data available in different resolutions, according to their professional needs or personal interests.

An excellent example of a GIS used for the management of archaeological heritage is the Middle Eastern Geodatabase for Antiquities – Jordan (MEGA-J), developed in a collaborative project between Jordan’s Department of Antiquities, the Getty Conservation

Institute (GCI) and the World Monuments Fund (WMF; MEGA-J 2010; Palumbo 2011, 2012; Myers and Dalgity 2012; see Fig. 10.3), and replacing the previous system JADIS (Palumbo 1993, 1994, 1999). A similar GIS is planned for Iraq as well (MEGA-I; Palumbo *et al.* 2009; Myers and Dalgity 2012).

Many issues discussed in this dissertation were addressed and resolved in the design and construction of MEGA-J. The interactive map offered by MEGA-J allows users to search sites using different types of keywords, free text, exact location, or by browsing the map of Jordan by districts. The system aims at demarcating sites as polygons, although when exact boundaries of sites were unknown, they received the same default square-shaped polygon. Site information is very elaborate, and includes: site name(s), exact location, area, perimeter, buffer zone, topography, elevation, periods of existence, site significance, elements (marked as separate entries by exact locations), administrative information on the site's record, monitoring events (reports on site visits, its condition, threats, ownership, management recommendations, photographs, etc), and bibliographic references.

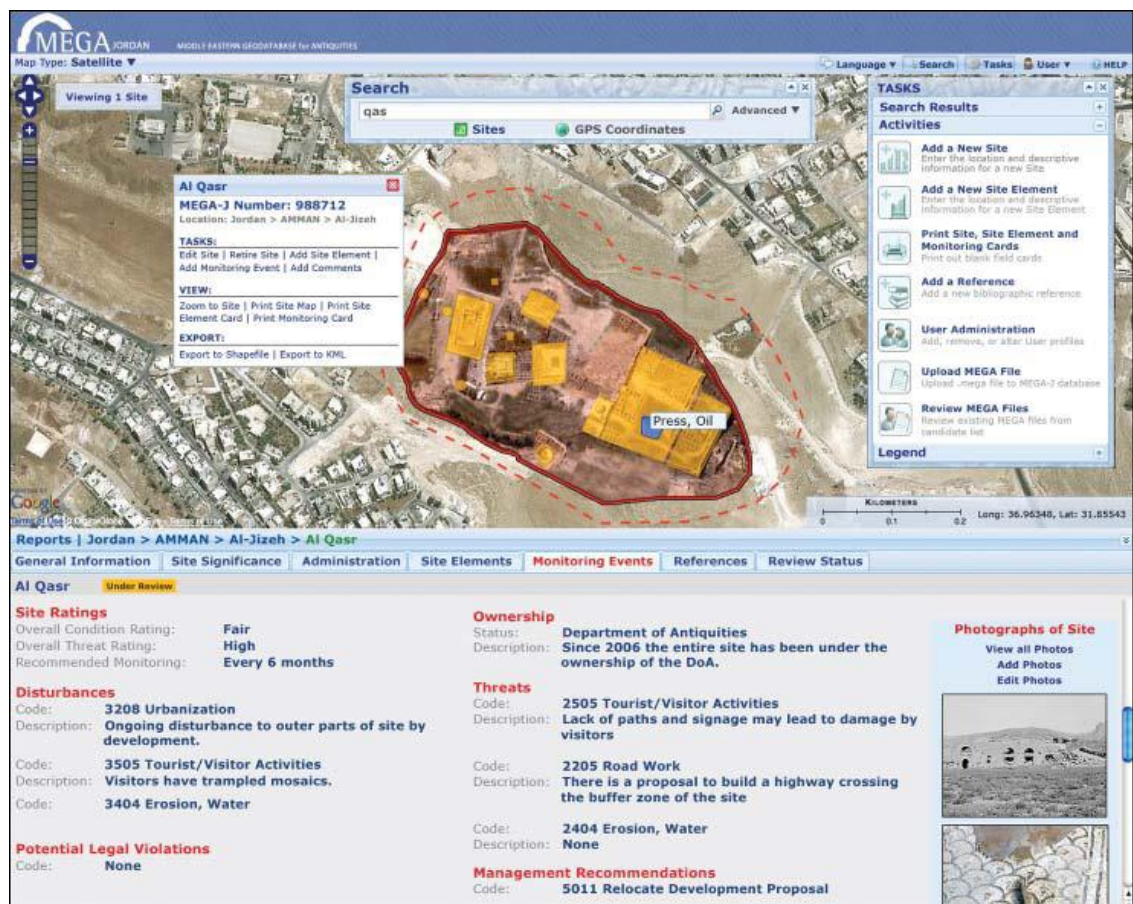


Fig. 10.3: A screenshot of MEGA-J; after Palumbo *et al.* 2009, 345 fig. 3; © 2010 Google-Imagery © 2010 Digital Globe, GeoEye.



This sustainable, low-cost system uses open source software and is also available online, on a Google Earth platform. By centralising and standardising archaeological data, and being constantly updated, this system can provide up-to-date information on the status of conservation of sites, and monitor changes to sites and their environs. Archaeological sites can be viewed in a high resolution and presents users with an identification of different elements and features within sites. This user-friendly system can be used by professionals, scholars and the public – for site management, research and even visit planning. Different users have different levels of access, thus while some are authorised to add and update information, others have restricted access and will only be able to browse the data. MEGA-J's web-based platform, available both in English and Arabic, facilitates access to a great extent, and simplifies data sharing between national and municipal agencies.

Following the success of the MEGA system, GCI-WMF received queries from worldwide heritage organisations regarding the adoption of MEGA to their specific needs. This led GCI-WMF to develop Arches – an open source, customisable, web-based GIS designed to inventory and manage all types of immovable cultural heritage (Myers *et al.* 2012; Arches 2013). An early version of Arches is currently available for download, and this month (June 2013) an advanced version is scheduled to be released, for the benefit of heritage institutions.

In my opinion, Palestinian and Israeli institutions may greatly benefit from using the Arches or MEGA-J platforms to store and manage archaeological and heritage data. The different inventories discussed throughout this dissertation are well suitable to be converted into these platforms. MEGA-J is bilingual, and can already handle right-to-left writing systems, therefore it should be relatively straightforward to upload data in Hebrew onto it. These platforms, however, are not suitable to denote different levels of accuracy for site boundaries (mentioned in this section). Nonetheless, they provide an excellent alternative to existing Israeli and Palestinian inventory platforms.

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### 10.3.5 INTANGIBLE HERITAGE AND PGIS

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Common practices of data collection for national databases in the West Bank – as in most worldwide regions and countries – included only tangible heritage, such as archaeological

sites, monuments or historical buildings, many of which are visible and have identifiable boundaries. However, the importance of intangible heritage and the incorporation of intangible values has been emphasised by international guidelines devised by ICOMOS and UNESCO (see Section 1.4). Their charters denote the significance of cultural, religious or artistic traditions on their own, or in association with the landscape in which they take place.

Intangible heritage has a formless character that is sometimes left unnoticed, and hence it is often neglected. Therefore, the only way to preserve it for future generations is to meticulously research and document it. UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage has already advocated the inventorying of intangible heritage:

“To ensure identification with a view to safeguarding, each State Party shall draw up, in a manner geared to its own situation, one or more inventories of the intangible cultural heritage present in its territory. These inventories shall be regularly updated” (UNESCO 2003b, III, Article 12(1)).

This convention places the responsibility of creating intangible heritage inventories on the States, i.e. at the national level. While intangible heritage is not in itself a geographic location, it could, more often than not, be associated with a specific place or region, since it is attributed to people residing in a certain area. As such, it could be inventoried in a traditional, 'spatial' way. As demonstrated in Section 6.2.2, Palestinian organisations collect data relating to intangible heritage; however, such documentation projects should probably be even more promoted by both Israelis and Palestinians. The importance of introducing intangible heritage to national inventories has been recently discussed in the context of the United States' National Register of Historic Places (Morgan *et al.* 2006, 2010). The necessity of a well documented intangible heritage was made clear in the aftermath of Hurricane Katrina, hitting the southern US coasts in the summer of 2005:

“When local, state, and federal officials and the nonprofit preservation sector first sought to calculate the hurricane's impact on heritage resources, they initially turned to the inventories of historic properties maintained by the states and the federal government. It quickly became apparent that the majority of places the hurricane damaged or destroyed were not included in such inventories and, in fact, had never been considered for placement in them” (Morgan *et al.* 2006, 707).

In this case, the National Register proved to be a very selective inventory of cultural heritage, which did not include all types of heritage. As Morgan *et al.* (2006, 711) rightfully ask, “What about the empty spaces between individual dots and district blocks on the National Register maps?” Understanding the need to include intangible heritage in national inventories, some countries have been constructing such databases. One example is Portugal, which created a National Inventory of Intangible Heritage, following relatively recent changes in the Portuguese Heritage Law (da Costa 2009; MatrizPCI 2013). Recorded traditions include a description of their social, temporal and territorial contexts; for example, a pilgrimage festival called ‘Romaria da Senhora Aparecida’, takes place in mid-August by the local community in the parish of Sanfins do Torno (Lousada). This inventory is freely accessible online, so that communities are able to participate in the preservation of their own heritage and in inventory-making (a practice which could be very beneficial for the recording of tangible heritage as well). Portugal realised the importance of its communities’ participation in documentation processes – and also took practical steps to facilitate their contribution. This practice corresponds with Shaheed’s report to the UN’s Human Rights Council, where she noted that:

“Concerned communities and relevant individuals should be consulted and invited to actively participate in the whole process of identification, selection, classification, interpretation, preservation/safeguard, stewardship and development of cultural heritage” (Shaheed 2011, Article VI(80)(c)).

Communities’ participation in the recording of their intangible heritage is important – and could also take place spatially. Thus, indigenous knowledge and perceptions of space could be added to a GIS. Such as GIS could integrate landscape elements that are more traditionally documented, such as archaeology and natural features, with a variety of stories, traditions, memories and sentiments which relate to places. This approach is known as Participatory GIS (PGIS; e.g. Rambaldi *et al.* 2006; Fitzjohn 2009).

One example of an implementation of such approach is Fitzjohn’s project in Troina, Sicily. He collected historical and archaeological data as well as contemporary data, in order to create a digital ‘deep map’ which includes texts, images, audio and video files (Fitzjohn 2009; see Fig. 10.4). He also mentions a PGIS project used for the management of the Angkor World Heritage Site in Cambodia (*ibid.*, 240), where traditional datasets were combined with data deriving from interviews with local villagers, who provided meanings,



terms and place names of features in the landscape, and by that contributed their conceptions of the landscape to the overall documentation. Another interesting example is a project conducted in Cameroon, where local tribes of hunter-gatherers documented their own practices (Nelson 2007). These communities engaged in the mapping of their forest activities, and especially the use of local resources, as well as the validation of maps (see Fig. 10.5). All of these ideas could be implemented in the West Bank as well. Intangible heritage such as Palestinian storytelling and dancing, crafts and local production could be recorded and compiled on a GIS, and, in addition, local Israeli and Palestinian residents can enhance current databases with their stories, memories and experiences of places.



Fig. 10.4: Screenshot from Troina's GIS presenting a map with video and audio files recording traditional festivals; after Fitzjohn 2009, 248 fig. 13.4.



Fig. 10.5: Baka community members document their forest use in Nki Forest, Cameroon. Photograph by John Nelson ©.

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### 10.3.6 COOPERATION, DATA SHARING AND ACCESSIBILITY

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It is well understood that both past and present-day cultural behaviours transcend modern boundaries of states, nations, or jurisdiction zones. Therefore, treating cultural heritage within the narrow context of fragmented regions will greatly limit our understanding, analysis and management. The use of archaeological, architectural and other heritage inventories in isolation from one another will limit the effectiveness of management policies and practices. As witnessed for the West Bank, Israelis and Palestinians do not currently have or use the same data, and in many cases (especially as demonstrated by data comparisons in Chapter 7 and Section 8.2), different inventories often supplement each other. As shown by the results of the stakeholders' questionnaire (Section 8.3.3), almost all professionals using databases or GIS for their work were unaware of all the major inventories available for their region of research or management. In addition, the Israeli Staff Officer himself was unfamiliar with an inventory as comprehensive as the Riwaq's registry (H. Hizmi, pers. comm.). It could be assumed that smaller scale inventories (such as regional or academic ones mentioned in Section 5.4.5) are even less known to many scholars and heritage practitioners.

It would, therefore, be advisable that a framework allowing the exchange of inventory data be established for the West Bank. Such framework is in fact essential in any country or region in which data exclusion is a common practice. Israelis and Palestinians need to cooperate and share heritage data for the benefit of scholars, heritage professionals – and even for political negotiators (Fahel 2010, 28-29). A good flow of information should also exist between different Palestinian governmental departments, local municipalities, and members of the public (Abdelhamid 2009, 1), as well as between the Israeli SOA, academic institutions and other organisations. The use of different inventories in conjunction will require better accessibility to data as well as higher levels of transparency and accountability. A relatively simple and straightforward solution to currently dispersed data could be an online portal which lists all available inventories for the West Bank as a whole and/or for specific regions within it. Such a website should include information on how to request data or how to access data in case of online inventories, as well as information on the data itself, such as the organisations which collect and manage it, its scope, methodology, limitations, etc (see Section 10.3.1). Such a portal could only point to data sources, or, alternatively, also include data on its own. In case of the latter option, inventory creators should be encouraged to upload their data to this website and

communicate their information. Examples of online repositories of archaeological or heritage data (which do not necessarily include a user-friendly front end to their data, as would be expected by such hypothetical portal) could be on a national scale, i.e. for the entire West Bank (such as Arachne in Germany; see Arachne 2013), local or even on an institutional level (e.g. UCL Discovery 2013). Alternatively, data could be uploaded to existing international repositories such as the Archaeological Data Service (ADS 2013), which accepts data from all over the world. A more complicated scheme of data integration is the combination of all available information in one comprehensive and all-inclusive inventory. Such a solution is achievable, though its implementers will have to take into account many incompatibilities such as data in different resolutions, qualities and languages, and will also have to change or adapt to the current situation in the West Bank, in which Israeli and Palestinian practitioners do not commonly collaborate on mutual projects.

These issues are closely related to the controversial and much wider topic of access to information. There have been numerous discussions on this heated issue, with the main question being: should archaeological inventories be fully accessible without restrictions, or should some data remain restricted? Many professionals have to face the dilemma of having to choose between their will and obligation to grant full access to their data, and the fear that this data would be used maliciously. Discussions on accessibility to heritage data distinguish two kinds of data end-users: professional stakeholders and the general public.

Two main approaches to data accessibility are prevalent: the first is tiered access to inventories, where some data is being controlled in order to secure data confidentiality and to prevent abuses to sites (such as looting) resulting from direct access to information; the second approach is granting full access to data, following the 'open data' movement, human rights guidance on the right to access cultural information, and the general conviction that archaeological and heritage data belong to everyone. As previously discussed (Sections 3.3.5 and 6.3.1), granting full access to data increases data usability and collaboration opportunities between stakeholders, and may be perceived as a better practice of public engagement. On the other hand, a restriction of access to parts of the data may actually advance better protection of heritage assets (for more discussions see for example Kansa *et al.* 2010; Kansa and Kansa 2011).

Following the *Europae Archaeologiae Consilium* (EAC) symposium it became evident that some European countries support full access to data (including indication of exact site locations), while others support a reduced-level of data to be available to the public (de Wit and Ziengs 2009, 166-167). The UNESCO and EuroMed Heritage workshop about inventories in Mediterranean and Middle Eastern countries revealed that most of its participating countries believe that full access to data is dangerous and may lead to abuse, especially in the form of looting, and also as a result of local tourism agents (UNESCO 2008, 154). It seems, therefore, that a balance should be obtained between legal and ethical issues such as the right to access information, and the desired protection of heritage. In my opinion, this balance may vary between different regions or countries – and may also require re-evaluations and adjustments in due time. It should also be recognised that, nowadays, more and more people such as tourists and hikers are engaged in documenting and sharing data (e.g. on social networks), which ultimately reveals very specific information on site locations (Bevan 2012, 8). Since spatial information is becoming widespread and easy to acquire, it seems that, at some point in the future, restrictions on spatial precision in inventories will become redundant or wholly ineffective.

Reviewing the case of the West Bank (see Section 6.3.1), it was established that DACH's and SOA's inventories were not publically accessible (though data may be provided upon request), while data from the WBEJAD and Riwaq's registry was more easily attainable through academic publications and websites. As demonstrated in Section 8.3, all stakeholders participating in the questionnaire were in favour of a more accessible management system. It was evident that most of them were unsatisfied either with their own level of access to data, or with that of others. Another issue raised by stakeholders, though not as a major concern, was the existence of language barriers, i.e. inventorial data available in a language unknown to them. As for their opinion regarding the degree of access the general public should attain, stakeholders were almost equally divided between the willingness to grant full access and the will to control access. This disparity testifies to the prominence of the above discussed dilemma among West Bank heritage practitioners.

It seems to me that the right way to approach the issue of accessibility is to try and determine what is appropriate for the specific case of the West Bank. While it is likely that local knowledge of the landscape is a bigger factor for potential looters, the publication of exact site locations may facilitate their work, however unlikely (as pointed out by Bevan 2012, 8). It is thus advisable that research is conducted into the impact of fully-accessible

inventories on looting practices in the West Bank, which could include consultations with local authorities, interviews with looters (as previously done for the West Bank, e.g. Lange 2008; Al-Houdalieh 2012) and with local residents, and/or other types of investigations. As advocated above, web-based dissemination of data (in the form of an inventories portal, a data repository, or a website allowing to download data and/or dynamically browse it on a map) is a good method of increasing collaboration and data sharing between professional stakeholders, accessibility to data, and better public engagement. Making heritage data available online is viewed by many as a basic good practice on the route towards a sustainable solution for data management. In addition, inventory creators should consider having their data available in more than one language, in order to increase the usability of their data.

#### 10.4 RESEARCH LIMITATIONS

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While much information was successfully gathered in the course of this research, which allowed for the set of recommendations described above, this dissertation is not problem-free. One of the most noticeable limitations of the research discussed in preceding chapters is, perhaps, the persistent asymmetry of Israeli and Palestinian data. There are several reasons for the prominence of Israeli data. Aside for the fact that Israeli archaeological activities have been conducted over a much longer period of time than the Palestinians (as discussed in Sections 4.4.1-4.4.3), as an Israeli archaeologist, I am more familiar with Israeli surveys and excavations in the West Bank than Palestinian archaeological projects, and my data collection on Israeli activities began prior to the beginning of this research. An equivalent inventory for Palestinian archaeological activities does not exist yet, and the DACH database, which may include such data in the future, is still under construction. For these reasons, when analysing Palestinian inventories, the general focus had to be more on the nature of planned or ongoing Palestinian documentation projects, rather than investigations of the actual contents of inventories.

Another major constraint dominating this research was limited access to information concerning the construction, maintenance and use of archaeological inventories and GI Systems. Restricted access and lack of cooperation were especially conspicuous on the Israeli side. The current Staff Officer, Hanania Hizmi, refused to share almost any

information regarding his organisation, which I requested for the purpose of this research. Queries sent to other SOA personnel were systematically ignored. As an organisation, previously directed by Yitzhak Magen (until 2009), the SOA has been receiving much criticism of its conduct and lack of transparency. Magen was accused of carrying out archaeological activities in the West Bank “as if the cultural heritage of Palestine was his personal fiefdom” (Sauders 2008, 480), while his organisation has been continually criticised for not being publically accountable or professionally monitored. The SOA issues excavation licenses to itself, is not subject to the supervision of the advisory council, and is not obliged to publish excavation results or report his actions; the Staff Officer “effectively runs his own show” (Rapoport 2006).

The SOA claims to maintain a database of finds and sites that is “free and accessible to all” (Civil Administration 2011, Hizmi’s Forward), but in fact it is accessible to whomever it chooses, or perhaps, only to those making a contribution to the database (*ibid.*, What We Do). While access to archaeological data may be virtually impossible, there are accessibility restrictions also to objects excavated under the SOA’s jurisdiction and stored in its storage facilities (Dodd and Boytner 2010, 8; Bergeson 2013). These published criticisms, to name but a few, chime with my own personal experience with the SOA. Not convinced that I deserved access to the information – indeed not even the most basic facts about the SOA and its working practices, most of my questions were left unanswered on the grounds of being ‘sensitive’. These included questions about GIS use, data management and decision-making processes (see Section 4.3.1.1), topics into which Hizmi was not willing to go at all, stating that this is internal information.

The retrieval of Palestinian data, while much easier and more straightforward, was limited as well. Many organisations are still reluctant to grant full access to their data – and at times, necessary explanations or clarifications on acquired data could not be obtained, in spite of recurrent queries. As a result of the lack of cooperation on the Israeli SOA’s side, and the often intermittent communication with Palestinian organisations, I was not always able to get a full picture of how inventories were being used, and their role within decision-making processes. While these and other issues were addressed by the stakeholders’ questionnaire in Chapter 8, the information received could not replace an in-depth institutional insight into inventorial use.

It is important to mention here that being an Israeli researcher did not seem to deter Palestinian professionals from sharing data or answering questions. In fact, perhaps

because some were familiar with my previous project (creating a database for the West Bank), they were generally happy to help – and their participation was crucial for this research. However, my nationality did impose restrictions and was an important factor when making decisions in the course of this research. For example, by Israeli law, I am prohibited from entering Area A in the West Bank – those areas which are under full Palestinian control, and this guided my choice of Gush Etzion as a first case study – a region divided between Areas B and C, both of which I could have physical access to. As for the Jericho Oasis case study, access restrictions contributed, to a great extent, to the failure of obtaining any results for the class-led exercise distributed among Birzeit University students (Section 9.3). When designing this exercise, I was aware that I would not be able to deliver it myself due to prohibited physical access to Birzeit University. My intention was therefore to have a colleague delivering this exercise for me, while being available for students in need of further guidance or clarifications. The exercise was eventually distributed among students in the course of their fieldwork in Jericho, without further monitoring or guidance, so the arrangement was far from ideal.

Another limitation of this research is that, given what is feasible in a project of this projected scope, it was not possible to cover all aspects of archaeological or heritage documentation and data management. Issues such as data preservation, standardisation, interoperability, data licensing and copyrights were mentioned, but not extensively covered. The issue of data standardisation for the benefit of data exchange, for example, is an important topic to discuss, but would require more research into current data sharing practices in general, and in particular between different West Bank organisations (e.g. within the Palestinian or Israeli governments, between NGOs, etc). Moreover, some aspects of data management were not discussed at all – such as choice of hardware or software for databases or GIS (e.g. open source and commercial software). Therefore, practical recommendations (explored in the following section) are not exhaustive, and other data management aspects should be kept in mind.

## 10.5 WAYS FORWARD

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“Develop knowledge of cultural heritage as a resource to facilitate peaceful co-existence by promoting trust and mutual understanding with a view to resolution and prevention of conflicts” (Council of Europe 2005, Section 2, Article 7(c))



Looking at the broader picture of heritage management, especially in the context of conflict situations, postcolonial theories stress the need to promote reflexivity, transparency and accountability. Archaeologists and heritage practitioners are capable of transforming archaeological practice and heritage management into positive socio-political driving forces, by taking more inclusive, responsible, critical and ethical approaches towards the study and management of the past. Particularly in a region such as the West Bank, heritage professionals should be more aware of their ability to promote mutual confidence and trust and to encourage dialogue between Israeli and Palestinian organisations and communities (Greenberg 2009; Perring and van der Linde 2009). The glaring imbalance of power between Israeli and Palestinian institutions should be addressed in various ways, by a re-examination and re-evaluation of disciplinary practices such as research, surveys, excavations, interpretation and presentation of archaeology and cultural heritage, in order to ensure the inclusion of different narratives and cultural values (e.g. Mizrahi 2010; Emek Shaveh 2012). As Hamilakis (1999, 74) appropriately states, it is our obligation to “interrogate and challenge institutional regimes for the ‘production of truths’, illuminate and expose the links of knowledges with power, and adopt a critical stance in the current global battlefields of cultural production and consumption”.

These postcolonial approaches of self-criticism and reflexivity, and the need to challenge structural inequalities (discussed especially in Section 3.3.2), should be expanded to the practices of documentation and data management, which are integral to heritage management. Inventory creators should be aware of their role as mediators and interpreters of cultural knowledge, as they shape heritage records and have a significant impact on the information being passed on to future generations (Cook and Schwartz 2002, 183). The power of inventories – ‘archival power’ – should be further highlighted and made open to dialogue and criticism. In the context of the West Bank, Butler (2009a, 58) was probably the first to “respond to Said’s call to ‘re-read’ the colonial archive ‘contrapuntally’ in order to create an ‘othering’ of dominant archival discourse”. The inclusion of the Palestinians, who have been the less dominant knowledge producers in this region, in documentation and the creation of inventories, can be seen as a moral duty, aiming to rectify the imbalance in power relations.

Does this mean that Israeli archaeologists should lose interest in the Iron Age or the Jewish past? The answer to this question closely relates to issues of social identity and



subjectivity, covered in Sections 3.3.1 and 3.3.3 respectively. In my opinion, it is anyone's right to take an interest in research and promote the type of heritage they feel most affiliated with. It is also quite impossible to divorce archaeological work from politics – in spite of the fact that many professionals perceive their work as objectively 'scientific'. While subjectivity will always be a part of archaeology and of cultural heritage, it should at least be explicit and understood. Glock (1995, 56-58) introduced seven suggestions for controlling cultural bias in the context of the West Bank. He emphasised the importance of reflexivity, which includes being aware of our research choices and priorities, as well as being outspoken regarding our aims and assumptions. Another step forward would be to identify gaps in current archaeological research (e.g. periods of the past that were not researched enough), and act to fill in these knowledge gaps.

It is also clear that further research is necessary in the fields of archaeological and cultural heritage documentation and data management. Recent symposia, conferences, seminars and other debates reflect the growing significance of documentation theory and practice. Whereas the academic sphere of archival studies has been thriving, not many studies were conducted specifically on archaeological and other cultural heritage inventories. For the case of the West Bank, it is important to conduct a more thorough research on Palestinian approaches to documentation and data management – especially from a Palestinian viewpoint. More knowledge, experience and better access to information are needed in order to investigate practices of Palestinian institutions and perceptions of local communities.

Additional research possibilities could include the further examination of the ways professionals use inventories and GIS, and how their practices could be improved. While this research did approach stakeholders with questions regarding actual practice, it did not ultimately provide as much insight into inventory and GIS use as intended. The GIS issues discussed in this dissertation could also be expanded to include the role of GIS in the creation of site management plans – especially as many aspects of GIS use covered here, such as boundaries, data accuracy, the use of different types of data, etc – apply to the management of specific sites as well as to large regions. Additional research could include further questionnaires, personal interviews, as well as more case studies and comparative analyses of inventory use. A more in-depth research focusing on specific aspects of documentation could also take place – in particular those issues that have not been sufficiently addressed by this present research, such as data standardisation and interoperability, data preservation and sustainability, digital copyrights, and more. In

order to investigate these types of issues, sufficient access to information will be essential, especially with regards to governmental organisations such as DACH and the SOA. This would possibly require preparatory steps to establishing a good working relationship that would ensure full cooperation of these and other organisations.

## 10.6 SUMMARY

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Throughout this research, much was learned about the ways in which Israelis and Palestinians approach archaeological and architectural documentation, inventory creation and GIS use – from choices of what to record and documentation methodologies to the final results of data collection, in the form of inventories. This chapter focused generally on future prospects, by taking the numerous observations made in the preceding chapters, and considering how to improve current academic and professional inventorial practices. A guiding principle adhered to when reflecting on practical recommendations is to aspire as much as possible to reflexivity and transparency. While personal preferences and cultural subjectivity can probably not be avoided, being aware and accountable for one's preferences is considered best practice. In order to enhance current inventories, the first necessary step is to assess and validate what we have so far, and to define gaps in current data. Then, additional data should be added to inventories, in accordance with this prior inventorial assessment; supplementary information could include site conditions, risk assessment data or intangible heritage data. GIS practices could also improve, by aspiring to more accurate spatial information in the form of polygons, whether defining individual sites or entire cultural landscapes, as well as by formulating boundary demarcation standards, and adding spatial intangible knowledge originating from local communities. All of this information should be as accessible as possible to heritage practitioners, scholars and the general public, in order to improve data management, inform decision-making, allow for data exchange, and encourage communities to learn more about their local cultural heritage.

## CHAPTER 11. CONCLUSION

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To express it slightly differently in closing, the main aim of this dissertation has been to study the inventorial aftermath of prolonged Israeli occupation and control over the Palestinian West Bank. A history of colonial intervention in the region, decades of Israeli interest in certain aspects of its history and archaeology, as well as a growing Palestinian understanding and promotion of local tangible and intangible heritage, have all had their impacts on the primary collection and secondary recording of archaeological and other heritage data. An inventory, often conceived as a totality of knowledge on a certain topic, actually only reflects the information that was considered important enough to be documented and preserved for posterity. As such, an inventory also manifests considerable gaps in knowledge – the information that was consciously or unconsciously left out (see Sections 3.3.2-3.3.3). For these reasons, I found the subject of inventories to be crying out for greater attention than it has received so far, especially in light of the glaring absence of such investigations in the context of Israel/Palestine. The current state of conflict in this region has been taking its toll on all possible aspects of life of both Palestinian and Israeli communities: from security and health to economy and education. The ways in which both peoples perceive themselves culturally and historically (Section 3.3.1) has been significantly influenced as well. One of the ways to study these issues is through the investigation of heritage inventories.

In this dissertation, I decided to focus mainly on archaeological inventories, by critically observing the consequences of certain archaeological endeavours and cultural interests on both sides. The investigation of recording emphasis, data quality, documentation methodology, accessibility to information and many other inventorial practices sheds light on the priorities and preferences of Israeli and Palestinian governmental organisations, NGOs, academic institutions and individual scholars. While this research focused on documentation and inventories, it added to existing knowledge in other areas as well. Its contribution could be perceived to be on three levels.

The first contribution of this research is therefore the fact that it helps clarify the practical frameworks in which archaeology and heritage management are practiced in the West Bank. It mapped organisational, jurisdictional and legal frameworks (Sections 4.2-4.3) – those frameworks within which inventories have been created. While this information was previously scattered in different academic publications and other sources, it has been

coherently presented in this dissertation for the first time. Similarly, the second contribution of this research has offered an overview, comparison and analysis of Israeli and Palestinian archaeological and cultural heritage management interests, priorities and preferences (Section 4.4). While the issues covered here have been previously examined as isolated cases, this research has sought to be more systematic and even-handed (where possible) in its comparisons of both sides' approaches to archaeology and cultural heritage.

The third and most important level of contribution of this research relates to West Bank archaeological inventories. First, it has sought to exemplify the link between collective social identities (see Section 3.3.1) and archaeological and other heritage inventories, by showing how personal, academic and national biases can pervade and be sustained in archives (Section 6.2). Collections of data, whether acquired through archival research, field surveys, interviews, or otherwise, are always subject to the collector's context (see Sections 3.3.3, 9.4). The history of the region of Israel/Palestine and the creation of different identities have been influencing the way people perceive and value the archaeological landscape (see Section 3.2.2), as well as the way they collect data about the past. In addition, this research demonstrated the variability of current inventories, and showed how they differ in contents, scope and quality of data (Sections 5.4, 6.3, 7.3-7.4, 8.2).

However, the fact that inventories are forever biased and subjective does not mean that we cannot speak of better or worse examples. Following the different observations made throughout this research, I have offered recommendations about how to improve current data management and enable more efficient decision-making (Section 10.3), and as a result, better protection and preservation of archaeological sites in the West Bank. While the combination of all recommendations is tailored for the case of the West Bank, any of them could conceivably also be suitable for other cases around the globe. For the case of the West Bank, a number of issues would need to be addressed if the recommendations in this thesis were to be implemented: institutions managing archaeological databases would need to concur with and act on the conclusions offered here, as well as allocate meaningful budgets and personnel; and the good will of joint Israel-Palestinian collaboration would also be crucial. In my opinion, approaches such as data sharing, transparency and accountability (see Section 10.3.6) will be more enthusiastically accepted by academics than by governmental bodies. Therefore I believe some of the proposed changes can only take place from the 'bottom-up' or as led by specific sectors. Sharing official data openly by

governments that are in a state of conflict is an agreeable and yet naïve idea; sharing data through NGOs or academic platforms is a much more viable way to improve accessibility in the immediately foreseeable future.

Similar challenges would probably be faced when applying any of this dissertation's recommendations to other conflict situations where archaeology is being practiced and cultural heritage is being managed. It is plausible that organisations in comparable situations will maintain different research interests and heritage management priorities, resulting from clashing collective identities, and consequently will promote different types of archaeology and heritage. It is also likely that other conflict zones may feature political tensions, multiple areas of jurisdiction, limited access to information and movement restrictions (such as discussed in Sections 6.3.3, 8.2.2, 8.3.3-8.3.4). These constraints significantly impact data collection and inventorial practices due to lack of institutional cooperation as well as security and safety measurements taken in the course of fieldwork. In other conflict zones, the severity of some of these issues is greater, and the destruction and direct threats to heritage sites are much more imminent. Warfare, combat and violence such as seen in today's Syria or recently in Iraq, where bombing, shelling, looting and other military activities have been causing irreversible damage to archaeological sites and historic monuments, are much more urgent issues. From the perspective of inventories, the documentation of the condition of sites and threats they are facing (as recommended in Section 10.3.2) is a far more crucial first step. An example of such a first-aid database is currently being developed in Iraq (Isakhan 2012), with the aim of informing the Iraqi government and the international community about the destruction of archaeological sites, so that their protection and restoration can be better prioritised.

Another contribution of this research actually arises from its main limitation – the undeniable difficulties experienced in accessing information and obtaining data from different sources (Section 10.4). In the course of this research much was learned about the challenges that researchers may have to face when approaching the topic of West Bank inventories. Receiving data from governmental organisations and NGOs was not always straightforward; therefore any future research on the topic of heritage inventories will have to take those difficulties into consideration. A better understanding of the challenges of accessing information can lead to better preparation and more efficient research in the future.

Finally, when approaching the topic of archaeological and architectural inventories, my aim was, in some small way, to open a door to a new intellectual space. After finalising the database of Israeli archaeological activity in the Occupied Palestinian Territories (WBEJAD), I found it important to bring the issue of inventorial subjectivity to the surface, make others conscious of it, criticise it, and learn from it. Archaeologists are producers of knowledge that is thereafter deployed for a variety of anticipated and unanticipated purposes worldwide, and in that respect they hold great responsibility. More reflexive and conscious data collection and management is one crucial step towards better protection of the non-renewable archaeological and historical heritage of the West Bank.

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## APPENDICES

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### APPENDIX IA: JERICHO OASIS CASE STUDY – STAKEHOLDERS QUESTIONNAIRE, PART I

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This survey deals with the use of archaeological databases and Geographic Information Systems (GIS) for the cultural heritage management of Jericho and its surroundings, including issues of accessibility and the nature and quality of available data. If there is anything else you wish to add, feel free to add your comments in the free text space at the end of this survey!

The survey includes 14 questions, and should take about 10-15 minutes to complete.

Thank you for your cooperation!

1. Which organisation(s) are you associated with? (More than one option can be ticked)
  - Governmental or municipal institution
  - International NGO
  - Palestinian NGO
  - International university
  - Palestinian university
  - I prefer not to say
  - Other – Please specify: \_\_\_\_\_
  
2. Which archaeological or architectural inventories are you familiar with? (Please tick all that apply)
  - Department of Antiquities and Cultural Heritage (DACH) database
  - RIWAQ registry of historical buildings
  - Palestine Archaeological Databank and Information System (PADIS)
  - West Bank and East Jerusalem Archaeological Database (WBEJAD)
  - Database of the Israeli Staff Officer for Archaeology in Judea and Samaria
  - Other – Please specify: \_\_\_\_\_
  
3. Do you or did you use a database and/or GIS platform for archaeological projects relating to Jericho (e.g. data management, excavations, surveys, heritage management)? (Please tick all that apply)
  - Yes, I use at least one database
  - Yes, I use GIS
  - No, but I get my data from another source who uses a database/GIS
  - No, I don't use a database or GIS, but I think that they might be useful
  - No, I don't use a database or GIS, I do not find them useful for my job

**Questions 4 to 9 relate to database/GIS users. If not relevant to you, please skip to Question 10.**



4. When conducting an archaeological project or making decisions relating to the management of heritage in Jericho, please specify the cases in which you need to use databases and/or GIS platform:
- 
- 
- 
5. Do you use one specific database or multiple databases? Please specify them below.
- I use one database
- I use multiple databases
- 
- 
6. If using only one database – are you satisfied with it, or do you think other databases are relevant to you and can further assist you with decision making?
- I use more than one database
- Yes, I am fine using only the database I currently use
- No, I think I can benefit from other datasets
7. What historical, practical and/or academic factors over the last century or so do you think have most affected the character of the information in the database(s) you use?
- 
- 
- 
8. Are you aware of any drawbacks, biases, or limitations in the database(s) that you use?
- No, I think they are good enough for my needs
- Yes, I am aware of some problems or limitations. Please specify them below:
- 
- 
- 
9. In your opinion, how can the database(s) or GIS platform you are familiar with may be improved, taking into account the factors you mentioned in Questions 7 and 8? (Please tick all that apply)
- I think the database/GIS platform should be more accessible to me or to other people
- I think the database/GIS platform should be more user-friendly
- I think the management system should operate on a different platform (Please specify below)
- I think the database's structure should be altered – some fields or data are irrelevant and should be removed (Please specify below)
- I think the database's structure should be altered – some fields or data are important and should be added (Please specify below)
- I think that the GIS platform should include more data (Please specify below)
- Other (Please specify below)

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10. In your opinion, in order to enhance the current available archaeological data for Jericho, which further steps should be taken? Please prioritise the following from 1 (most important) to 9 (least important), and very briefly explain your choices below.

- More detailed archival research
  - Better integration of existing datasets
  - More use of historic aerial photos
  - Further excavations
  - Further surface collection surveys
  - Exact demarcation of sites (e.g. via GPS, total station, etc.)
  - Full survey of site topography (e.g. via GPS, total station, LiDAR or traditional methods)
  - Remote sensing (e.g. modern aerial and/or satellite imaging)
  - Geophysical survey (e.g. resistivity, magnetometry, GPR)
- 
- 

11. How accessible is archaeological data (any relevant information regarding sites, including archaeological and administrative information) to you, when not published in academic or professional literature?

- I have easy and quick access to any information I need
- I do not have enough access to relevant data, or data is accessible to me but I have to make an effort to get what I need
- I have no access to data, and depending on someone else to supply me with relevant information
- I have no access to data whatsoever

12. Are you satisfied with the level of accessibility to this data? (Please tick all that apply)

- Yes, things are good the way they are
- No, I wish I had quicker and easier access to more data before making decisions
- No, I wish other people would also have access to the data I am using
- No, I wish some of the data would be in another language

13. Do you think some or all of the data you are familiar with should be accessible to the public? (Please tick all that apply)

- None of it should be accessible to the public
- Some of the data should be accessible to the public, through relevant academic publications or journals
- Some of the data should be accessible to the public online, as part a website
- Everything should be available and transparent to the public

14. When conducting an archaeological project or making decisions relating to the management of heritage in Jericho, are you influenced by the current political situation in Israel/Palestine?

- No, I am not influenced by politics
- Yes, my decisions are influenced by the current political situation. Please specify below:

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15. Is there anything else you wish to add?

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## APPENDIX IB: JERICHO OASIS CASE STUDY – STAKEHOLDERS QUESTIONNAIRE, PART II

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### STAGE 1

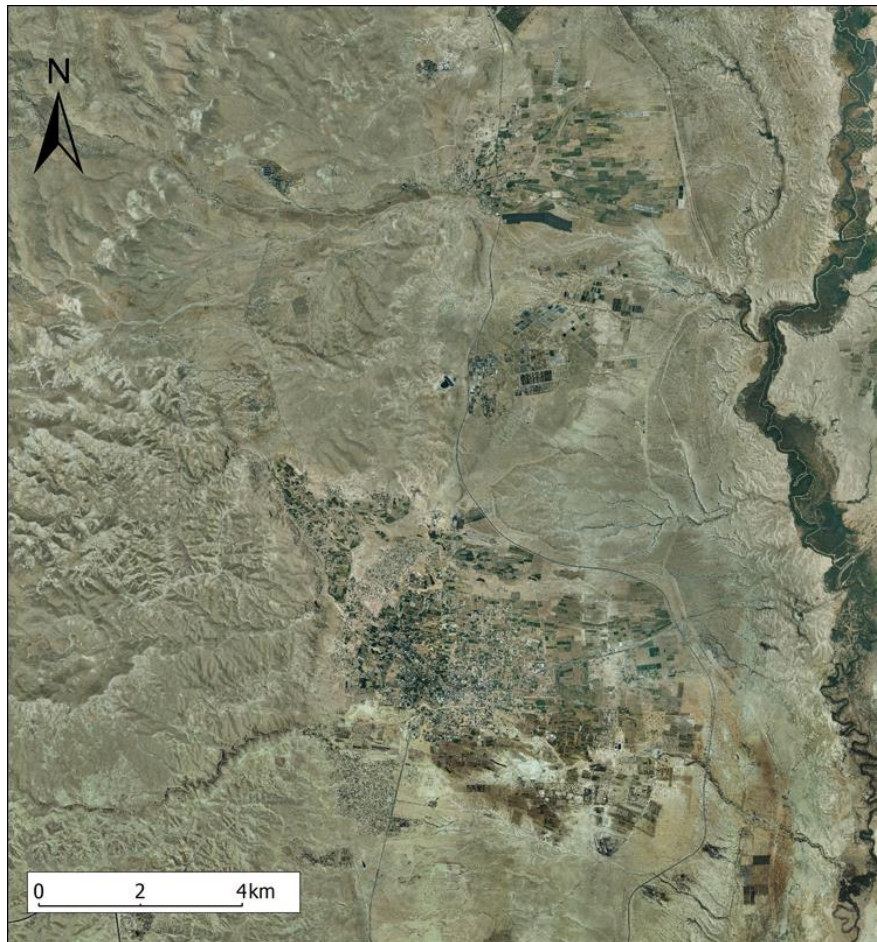
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This part includes satellite imagery of (1) the Jericho Oasis, (2) Tell es-Sultan and its environs, and (3) Qasr Hisham (Khirbet el-Mafjar) and its environs. Which boundaries, in your opinion, best represent an “Archaeological Park” for Jericho, and an optimal “management zone” for the two archaeological sites?

Using the drawing tool\*, please demarcate boundaries of your choice on the following images:

#### 1. JERICHO OASIS

---



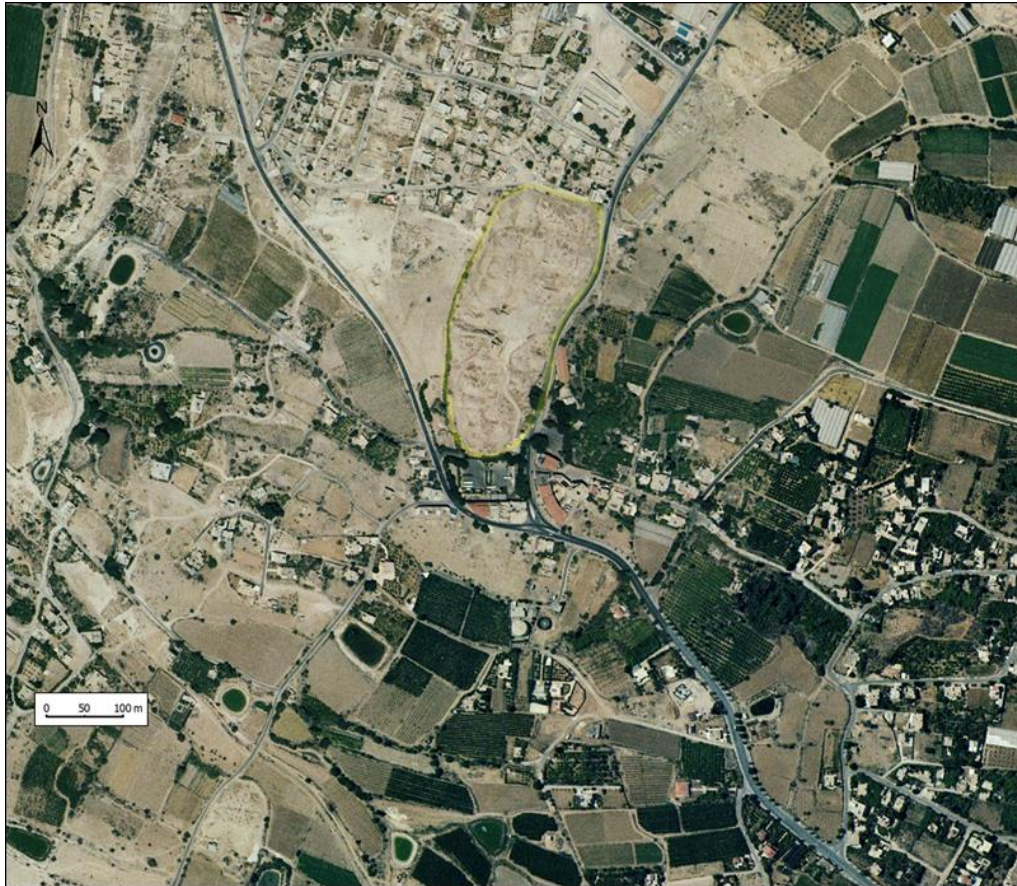
Which factors were considered when making decisions about your chosen boundaries?  
(Please tick all that apply)

- Further protection of the whole area chosen
- Included buffer zone around the designate protected area
- Visual settings (urban and natural landscape)

- Distribution of archaeological sites and elements previously known to me
- Jurisdiction constraints
- Budget limitations
- Land ownership constraints
- Other, please specify: \_\_\_\_\_

## 2. TELL ES-SULTAN

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Which factors were considered when making decisions about your chosen boundaries?  
(Please tick all that apply)

- Further protection of the whole area chosen
- Included buffer zone around the designate protected area
- Visual settings (urban and natural landscape)
- Distribution of archaeological sites and elements previously known to me
- Jurisdiction constraints
- Budget limitations
- Land ownership constraints
- Other, please specify: \_\_\_\_\_



### 3. QASR HISHAM



Which factors were considered when making decisions about your chosen boundaries?  
(Please tick all that apply)

- Further protection of the whole area chosen
- Included buffer zone around the designate protected area
- Visual settings (urban and natural landscape)
- Distribution of archaeological sites and elements previously known to me
- Jurisdiction constraints
- Budget limitations
- Land ownership constraints
- Other, please specify: \_\_\_\_\_

\* Drawing on a PDF is easy and simple. This option is available in some versions of Adobe Acrobat (Standard or Professional, but not in Adobe Reader), available on: Tools > Comment & Markup, and then by selecting a preferred drawing tool. Alternatively, you can download a free software called Foxit Reader, allowing to draw on PDF files. Download from here: <http://www.foxitsoftware.com/products/reader/>, and open the survey PDFs using this software.  
If you prefer not drawing on a PDF, I can send you these files as a PowerPoint file, where drawing may a more familiar task.

Thank you! You have completed Stage 1, please continue to Stage 2!

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## STAGE 2

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This part of the survey includes additional information on each of the three areas presented in the previous stage. This information includes GIS spatial layers and data from the following datasets:

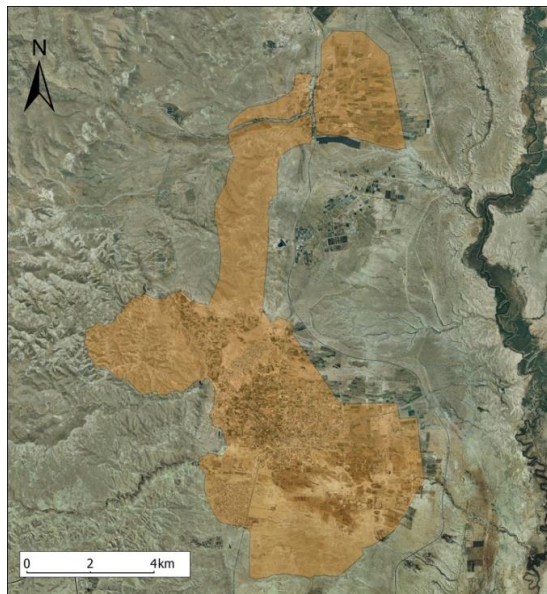
- The West Bank and East Jerusalem Archaeological Database (WBEJAD), surveyed and excavated sites
- The Israeli Staff Officer for Archaeology in Judea and Samaria (SOA) GIS layers of archaeological sites
- The Palestinian Department of Antiquities and Cultural Heritage (DACH) database
- Riwaq inventory of archaeological and architectural sites

For each of the three parts, please review the data and then demarcate again the area which should be, in your opinion, the proposed management zone, and further indicate what helped you make those decisions.

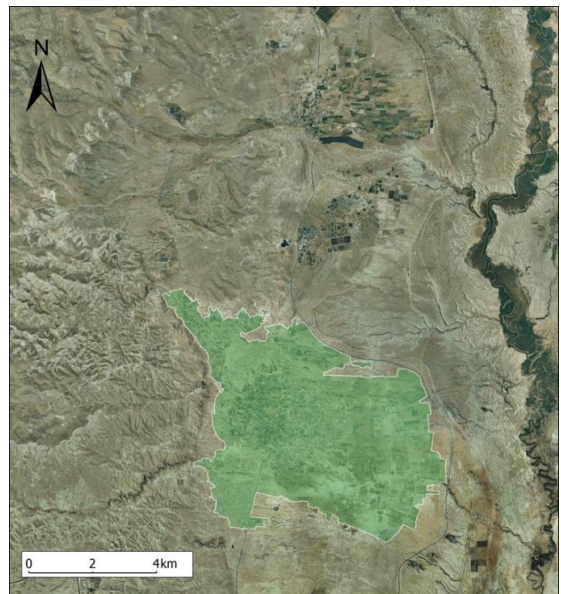
### PART 1: THE JERICHO OASIS

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A – Areas of Jurisdiction: Area A (orange) and C (the rest):

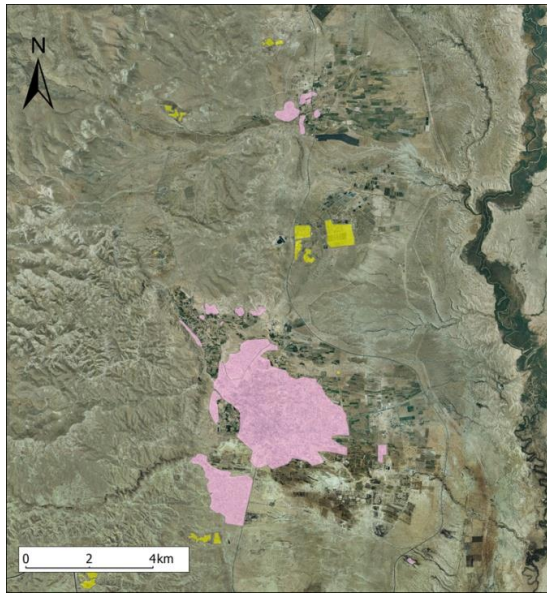


B – Jericho Oasis (green):

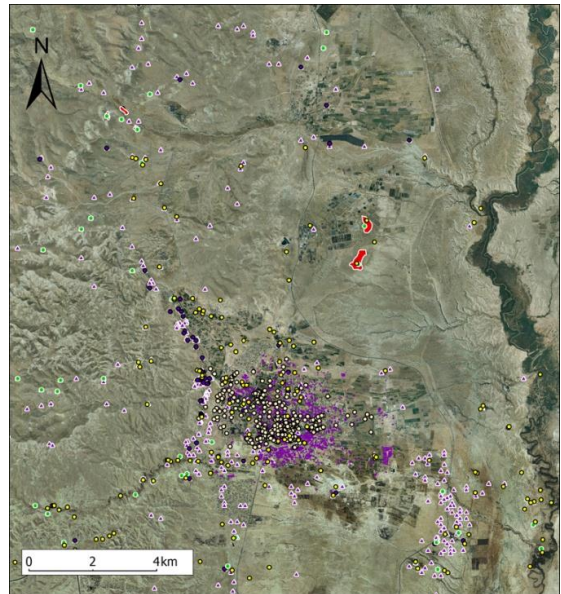




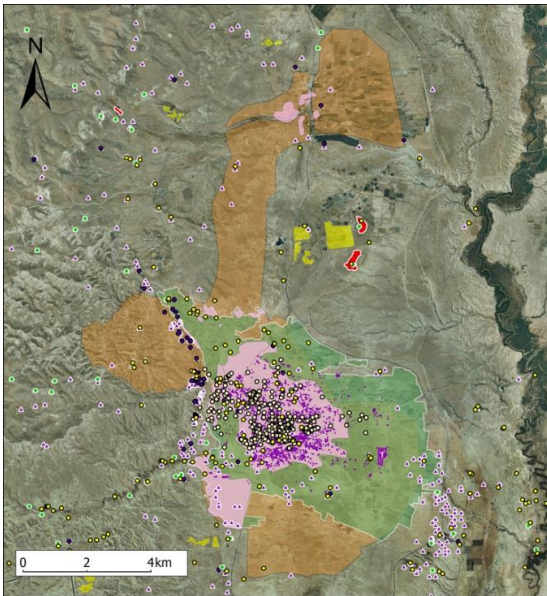
C – Palestinian (pink) and Jewish (yellow) Settlements:



D – Archaeological Sites from Various Datasets:

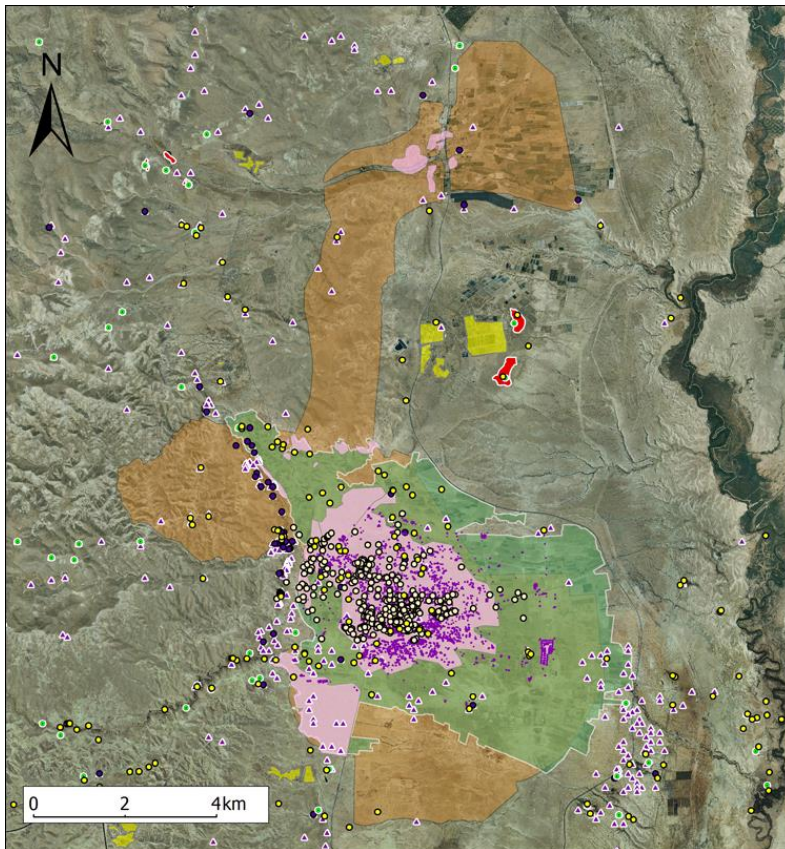


E – All Layers:





Please demarcate the area of your proposed “Archaeological Park” on this image:



Which of the presented maps were useful for you when making a decision?

- A
- B
- C
- D
- E
- None

What other factors influenced your decision?

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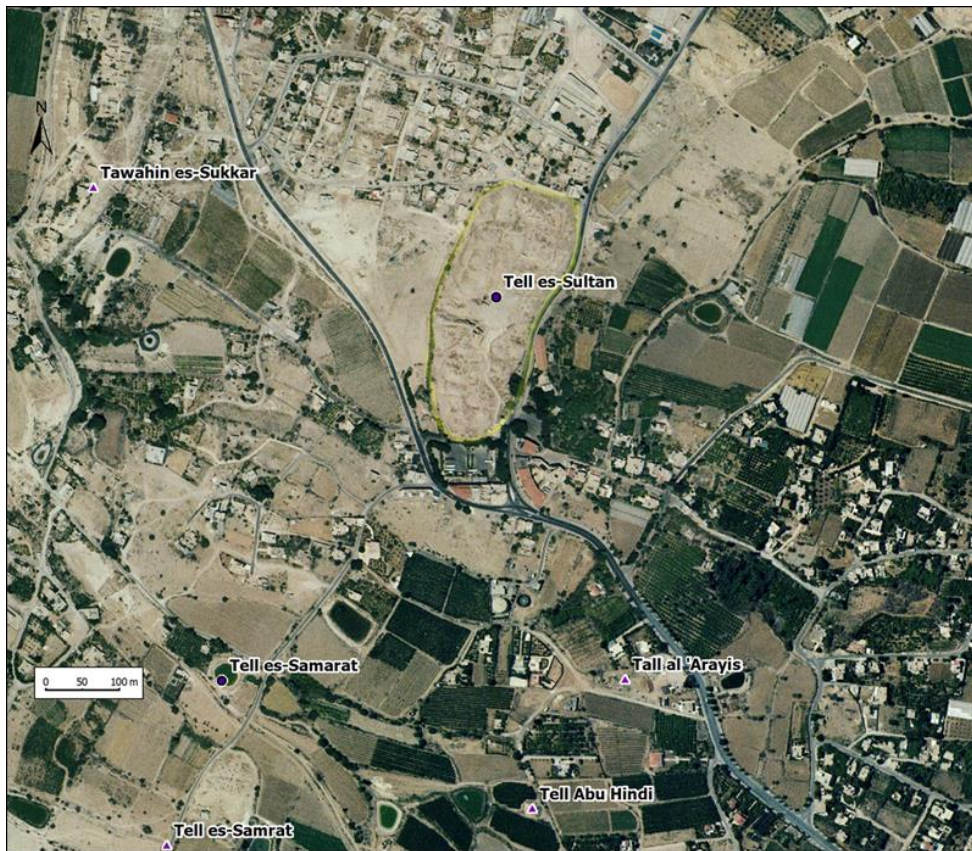
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## PART 2: TELL ES-SULTAN

A – West Bank and East Jerusalem Archaeological Database (WBEJAD):

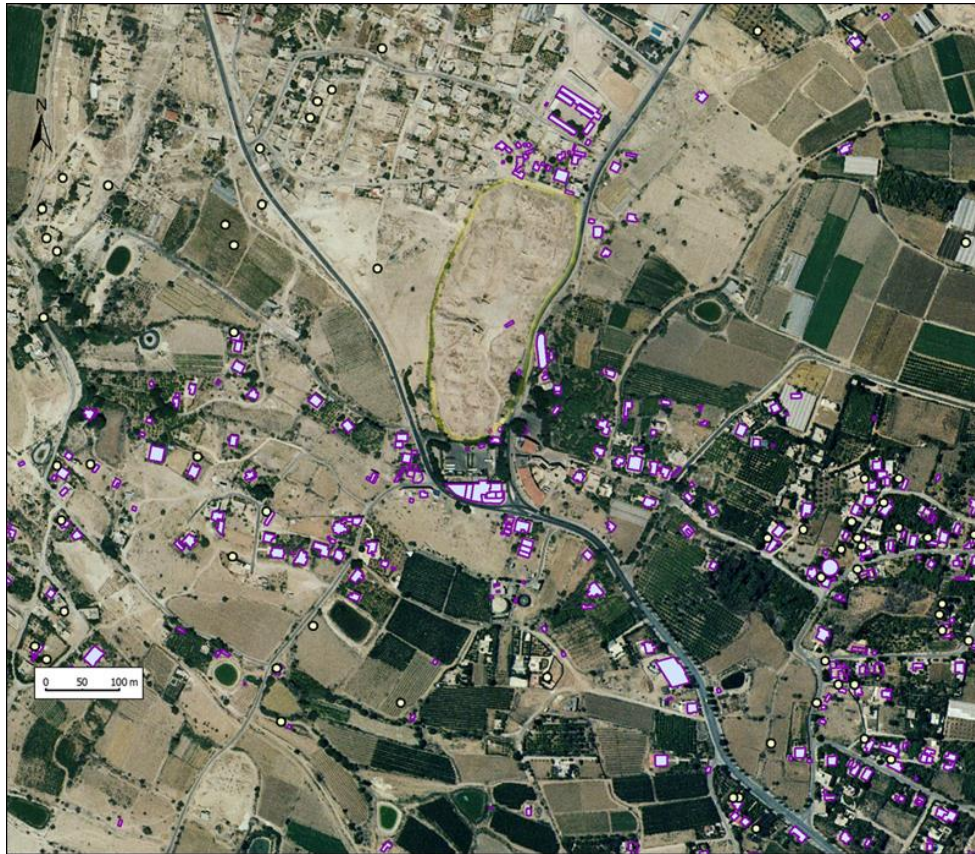


B – Department of Antiquities and Cultural Heritage (DACH) Database:

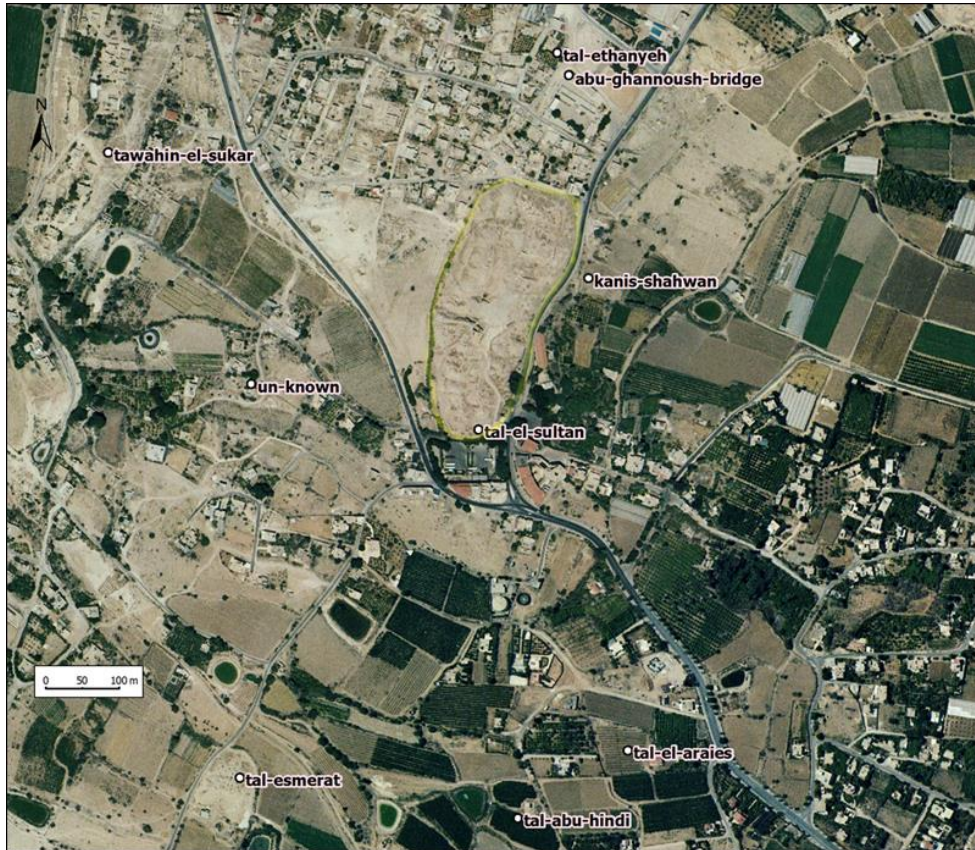




C – RIWAQ Architecture:

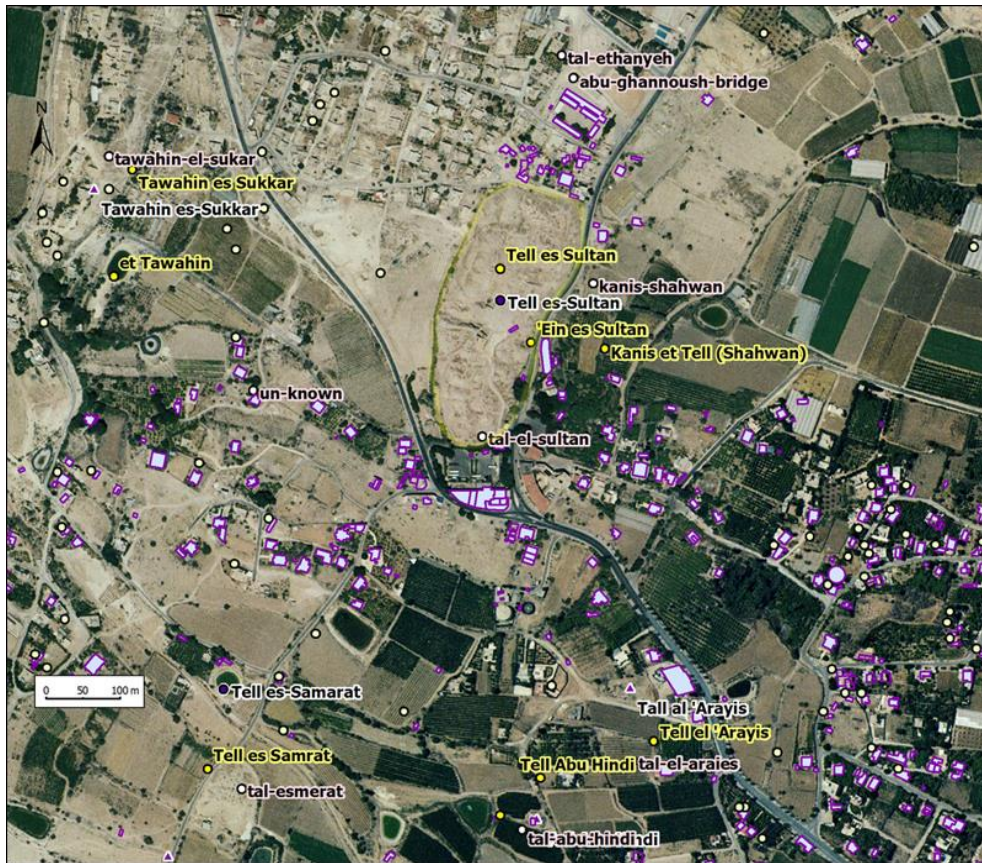


D – RIWAQ Archaeology:

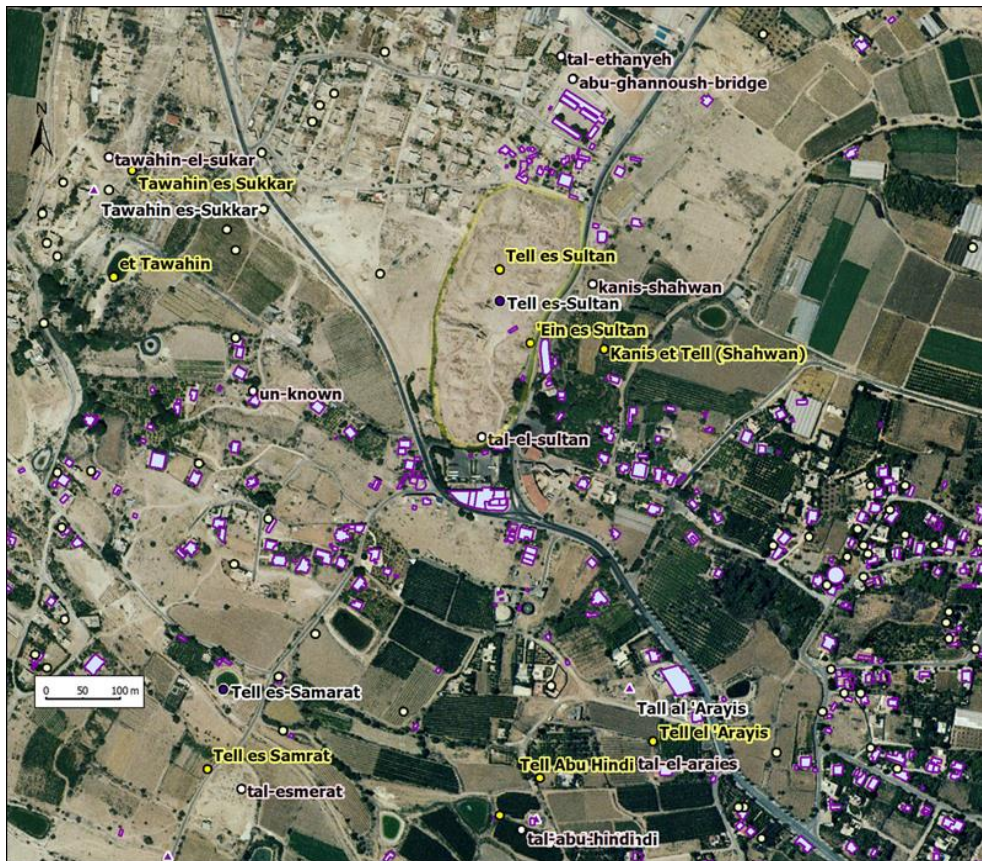




E – All Data:



Please demarcate the area of your proposed area designated for further management on this image:





Which of the presented maps were useful for you when making a decision?

- A
- B
- C
- D
- E
- None

What other factors influenced your decision?

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### PART 3: QASR HISHAM

A – West Bank and East Jerusalem Archaeological Database (WBEJAD):



B – Department of Antiquities and Cultural Heritage (DACH) Database:

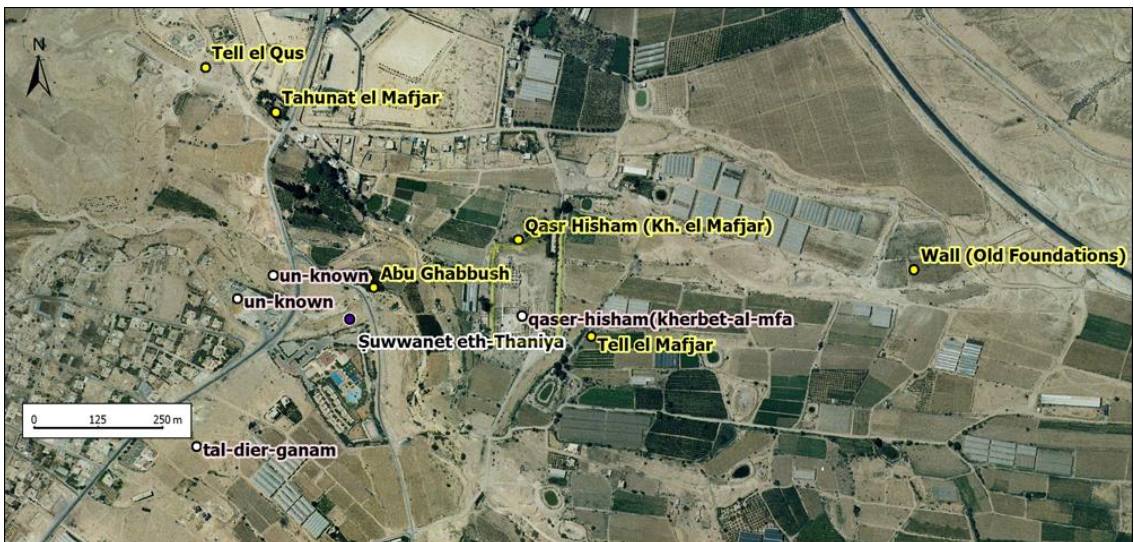




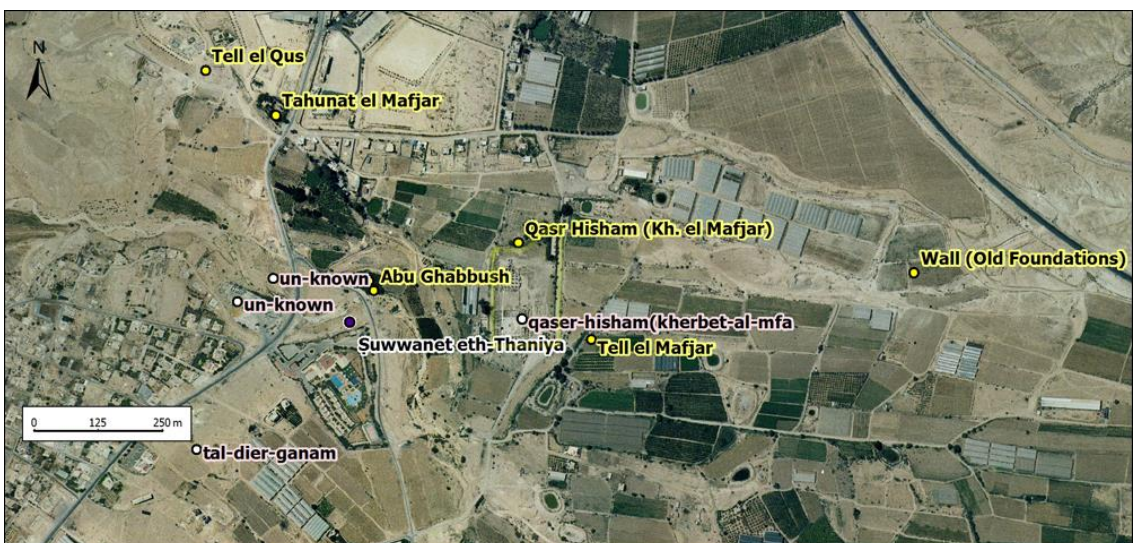
C – RIWAQ Archaeology:



D – All Data:



Please demarcate the area of your proposed area designated for further management on this image:



Which of the presented maps were useful for you when making a decision?

- A
- B
- C
- D
- None

What other factors influenced your decision?

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Thank you! You have completed Stage 2, please continue to Stage 3!



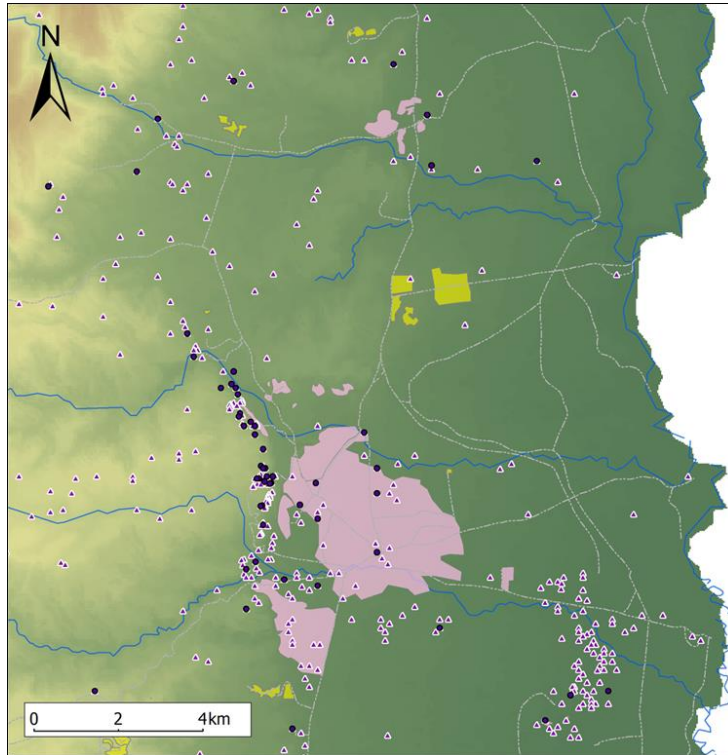
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### STAGE 3

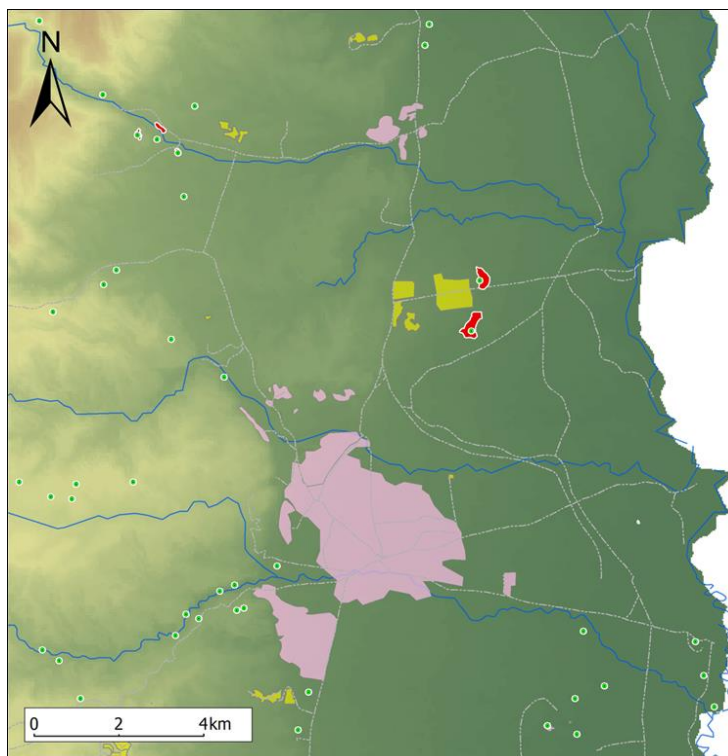
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This part includes the presentation of data from different datasets available for the Jericho area, followed by one question.

1 – West Bank and East Jerusalem Archaeological Database (WBEJAD) (surveyed and excavated sites):

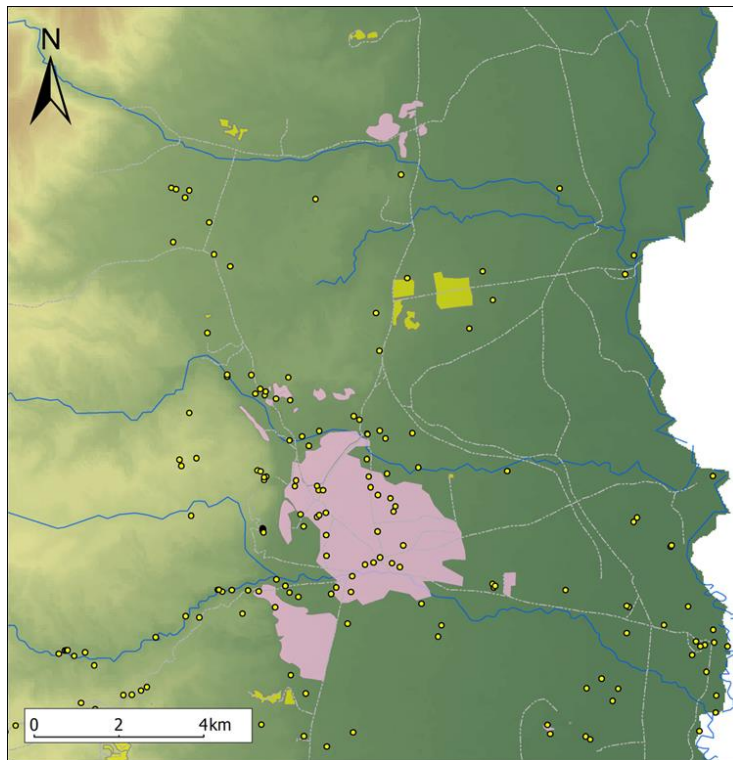


2 – Staff Officer for Archaeology in Judea and Samaria (SOA) Spatial Layers (red polygons and point-data):

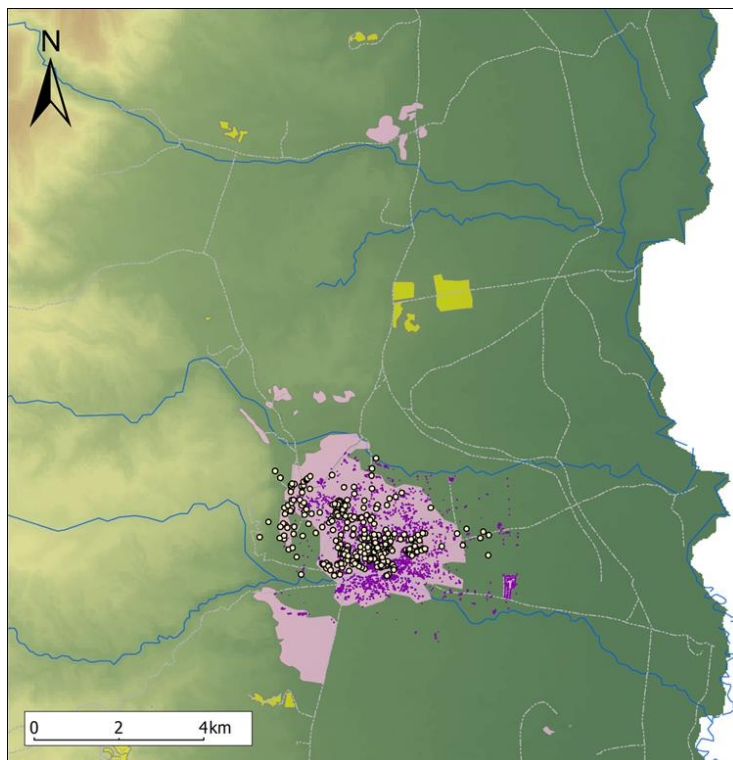




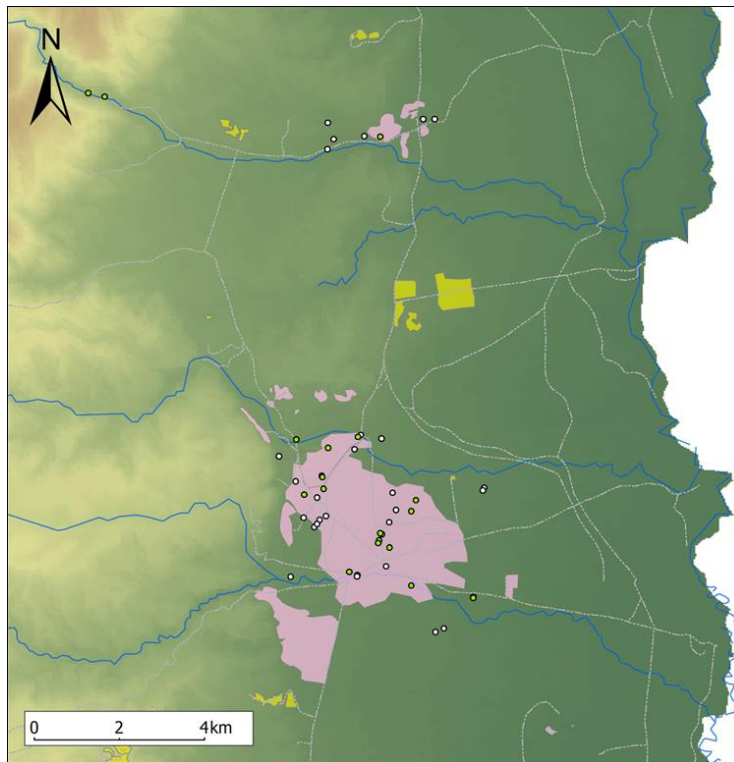
3 – Department of Antiquities and Cultural Heritage (DACH) Database:



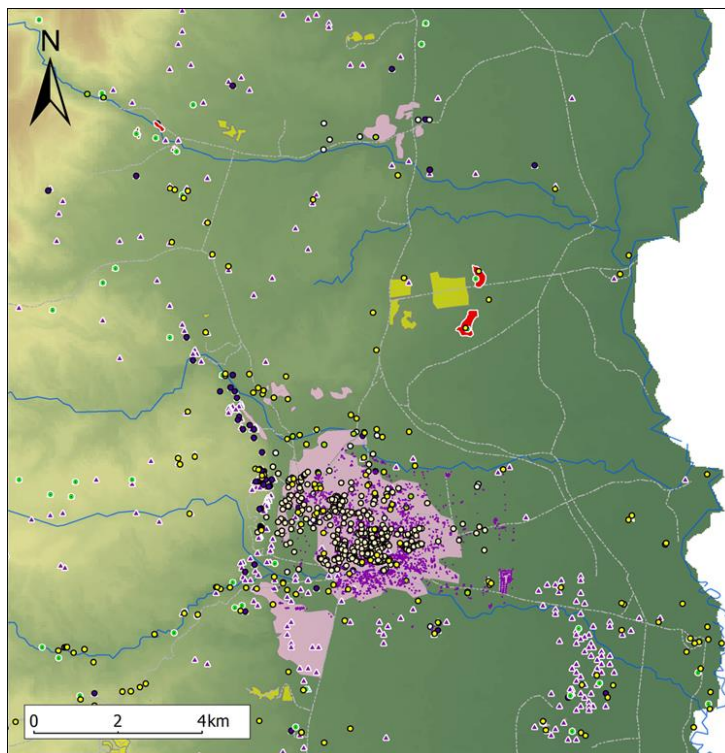
4 – RIWAQ Architecture:



5 – RIWAQ Archaeology:



6 – All Data:



Do you think that viewing different GIS layer and data deriving from different sources had an impact on the way you perceived the archaeological landscape of the Jericho Oasis?  
(Please tick all that apply)

- No, my knowledge of the area is not influenced by data of this sort
- No, knowing the landscape from firsthand experience is enough
- Yes, different GIS layers facilitate a broader perception of the area, I can benefit from that
- Yes, viewing different datasets contributes to the understanding of the area
- Yes, viewing different datasets contributes to the understanding of how data on the same area may differ
- Other, please specify: \_\_\_\_\_

Is there anything you wish you add?

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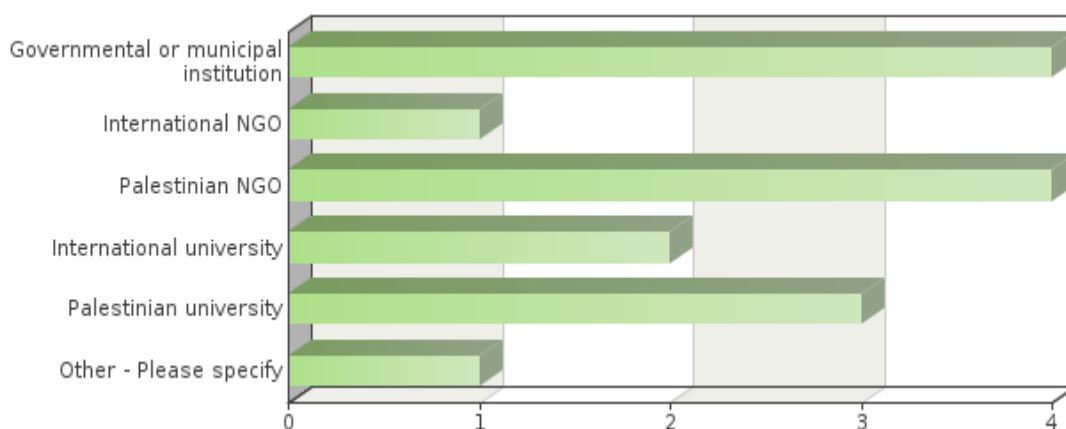
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## APPENDIX II: JERICHO OASIS CASE STUDY – QUESTIONNAIRE RESULTS

### Question 1

Which organisation(s) are you associated with? (Please tick all that apply)



Frequency table

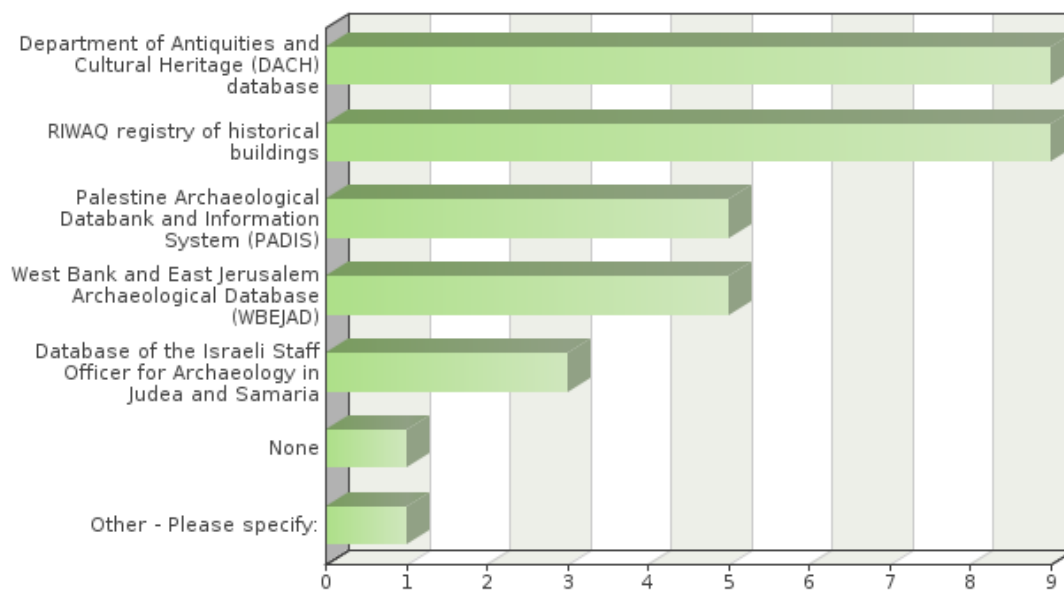
Choices	Absolute frequency	Relative frequency by choice	Relative frequency	Adjusted relative frequency
<b>Governmental or municipal institution</b>	4	26.67%	33.33%	33.33%
<b>International NGO</b>	1	6.67%	8.33%	8.33%
<b>Palestinian NGO</b>	4	26.67%	33.33%	33.33%
<b>International university</b>	2	13.33%	16.67%	16.67%
<b>Palestinian university</b>	3	20%	25%	25%
<b>Other - Please specify</b>	1	6.67%	8.33%	8.33%
<b>Sum:</b>	15	100%	-	-
<b>Not answered:</b>	0	-	0%	-
<b>Total answered: 12</b>				

#### Text input

Other: UNESCO

### Question 2

Which archaeological or architectural inventories are you familiar with? (Please tick all that apply)



Frequency table

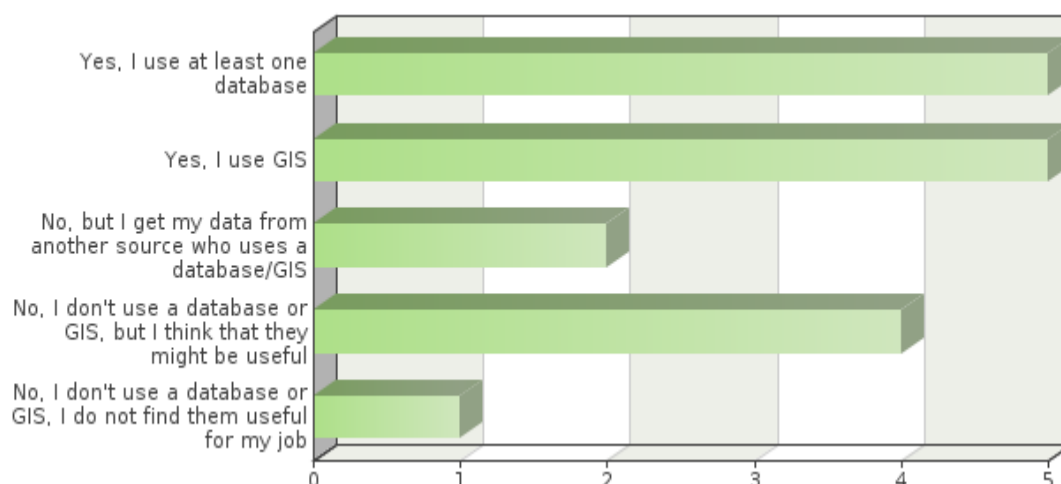
Choices	Absolute frequency	Relative frequency by choice	Relative frequency	Adjusted relative frequency
Department of Antiquities and Cultural Heritage (DACH) database	9	27.27%	75%	75%
RIWAQ registry of historical buildings	9	27.27%	75%	75%
Palestine Archaeological Databank and Information System (PADIS)	5	15.15%	41.67%	41.67%
West Bank and East Jerusalem Archaeological Database (WBEJAD)	5	15.15%	41.67%	41.67%
Database of the Israeli Staff Officer for Archaeology in Judea and Samaria	3	9.09%	25%	25%
None	1	3.03%	8.33%	8.33%
Other - Please specify:	1	3.03%	8.33%	8.33%
<b>Sum:</b>	<b>33</b>	<b>100%</b>	<b>-</b>	<b>-</b>
<b>Not answered:</b>	<b>0</b>	<b>-</b>	<b>0%</b>	<b>-</b>
<b>Total answered: 12</b>				

**Text input**

Other: own

**Question 3**

Do you or did you use a database and/or GIS platform for archaeological projects relating to Jericho (e.g. data management, excavations, surveys, heritage management)? (Please tick all that apply)



**Frequency table**

Choices	Absolute frequency	Relative frequency by choice	Relative frequency	Adjusted relative frequency
<b>Yes, I use at least one database</b>	5	29.41%	41.67%	41.67%
<b>Yes, I use GIS</b>	5	29.41%	41.67%	41.67%
<b>No, but I get my data from another source who uses a database/GIS</b>	2	11.76%	16.67%	16.67%
<b>No, I don't use a database or GIS, but I think that they might be useful</b>	4	23.53%	33.33%	33.33%
<b>No, I don't use a database or GIS, I do not find them useful for my job</b>	1	5.88%	8.33%	8.33%
<b>Sum:</b>	17	100%	-	-
<b>Not answered:</b>	0	-	0%	-
<b>Total answered: 12</b>				

#### Question 4

When conducting an archaeological project or making decisions relating to the management of heritage in Jericho, please specify the cases in which you need to use databases and/or GIS platform:

#### Text input

All cases, survey and excaavations

I used DACH's and RIWAQ's Databases to assess the management of cultural heritage in Jericho for my PhD thesis. Besides, I used the GIS to understand the distribution of the archaeological sites located within the bounders of the Municipality. This software was very helpful to locate the sites, proposed protection buffer zones, and their state of conservation.

Conservation activity and historical analisys

Jericho is a special case, and though some of the databases may overlap, using several would at least give the best picture, in terms of survey, earlier work and CRM

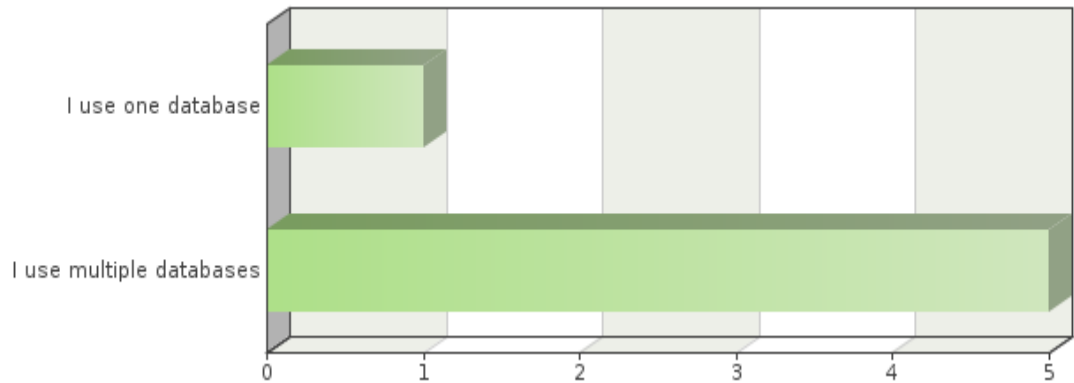
We work on intercultural projects, we do not work directly on heritage preservation.

I believe information is a power. In all cases we need to use a database and GIS: site map, signage, brochures and films.

archaeological and heritage sites

### Question 5

Do you use one specific database or multiple databases? Please specify them below.



Frequency table

Choices	Absolute frequency	Relative frequency	Adjusted relative frequency
<b>I use one database</b>	1	8.33%	16.67%
<b>I use multiple databases</b>	5	41.67%	83.33%
<b>Sum:</b>	6	50%	100%
<b>Not answered:</b>	6	50%	-
<b>Total answered: 6</b>			

#### Text input

GIS

SQL

Access

Excel

All published resources

I used DACH's, RIWAQ's Database, Fieldwork, and in person interviews

Riwaq

GIS database

Access database

SQL database

Autocad

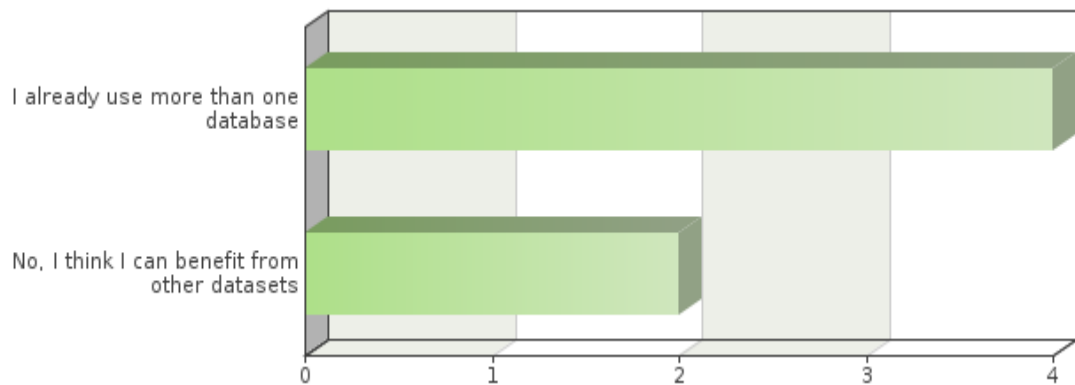
Excel

riwaqregister

### Question 6

If using only one database are you satisfied with it, or do you think other databases are relevant to you and can further assist you with decision making?





Frequency table

Choices	Absolute frequency	Relative frequency	Adjusted relative frequency
<b>I already use more than one database</b>	4	33.33%	66.67%
<b>No, I think I can benefit from other datasets</b>	2	16.67%	33.33%
<b>Sum:</b>	6	50%	100%
<b>Not answered:</b>	6	50%	-
<b>Total answered: 6</b>			

### Question 7

What historical, practical and/or academic factors over the last century or so do you think have most affected the character of the information in the database(s) you use?

#### Text input

Development of Arcview and gis

accuracy of publications, and in most cases the intensity of the inventories

The Biblical archaeology, especially the foreign expeditions since 19th century, such as the survey of western Palestine, the British Mandate activities (in Tell es-sultan, Hisham's Palace, Herod's Winter Palace).

Moreover, the Biblical presentation and interpretation of some archaeological sites, especially tell es-Sultan, making the biblical story more important than the cultural one

Lack of reliable data, lack of specialists in the field

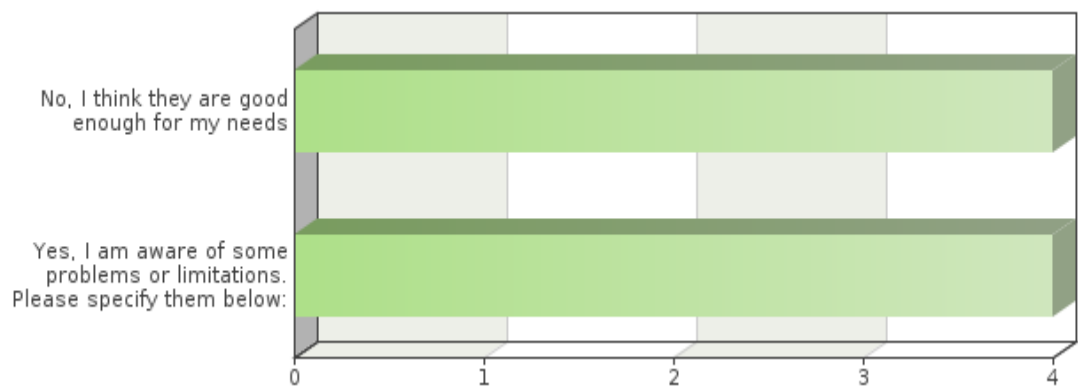
Accessibility

The impact of political conflicts particularly affect the construction of heritage database in the Middle Eastern region.

The huge development in databases in last century is the transporting from manual method to digitize method. We are working to digitize all surveys and excavations in Palestine by using GIS.

### Question 8

Are you aware of any drawbacks, biases, or limitations in the database(s) that you use?



Frequency table

Choices	Absolute frequency	Relative frequency	Adjusted relative frequency
No, I think they are good enough for my needs	4	33.33%	50%
Yes, I am aware of some problems or limitations. Please specify them below:	4	33.33%	50%
<b>Sum:</b>	8	66.67%	100%
<b>Not answered:</b>	4	33.33%	-
<b>Total answered: 8</b>			

**Text input**

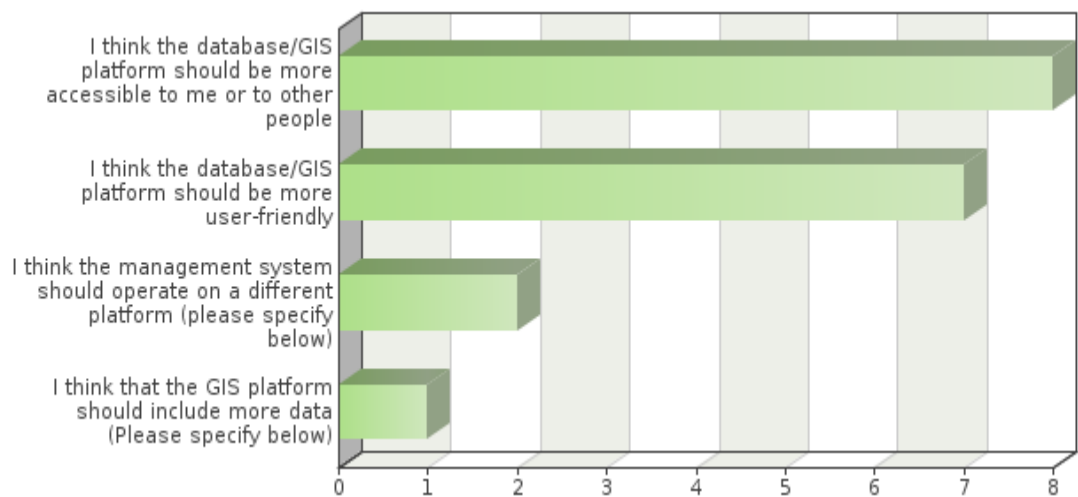
- Inaccuracy of field data
- Missing data

Incorrect and superficial information

We have financed a project in Jerusalem on alternative archeological search in Silwan area in order to counteract the ideological use of historical findings to justify the judaization of Jerusalem. The research and awareness raising project is carried out by a Jewish archeological team.

**Question 9**

In your opinion, how can the database(s) or GIS platform you are familiar with may be improved, taking into account the factors you mentioned in Questions 7 and 8? (Please tick all that apply)



**Frequency table**

Choices	Absolute frequency	Relative frequency by choice	Relative frequency	Adjusted relative frequency
<b>I think the database/GIS platform should be more accessible to me or to other people</b>	8	44.44%	66.67%	100%
<b>I think the database/GIS platform should be more user-friendly</b>	7	38.89%	58.33%	87.5%
<b>I think the management system should operate on a different platform (please specify below)</b>	2	11.11%	16.67%	25%
<b>I think that the GIS platform should include more data (Please specify below)</b>	1	5.56%	8.33%	12.5%
<b>Sum:</b>	18	100%	-	-
<b>Not answered:</b>	4	-	33.33%	-
<b>Total answered: 8</b>				

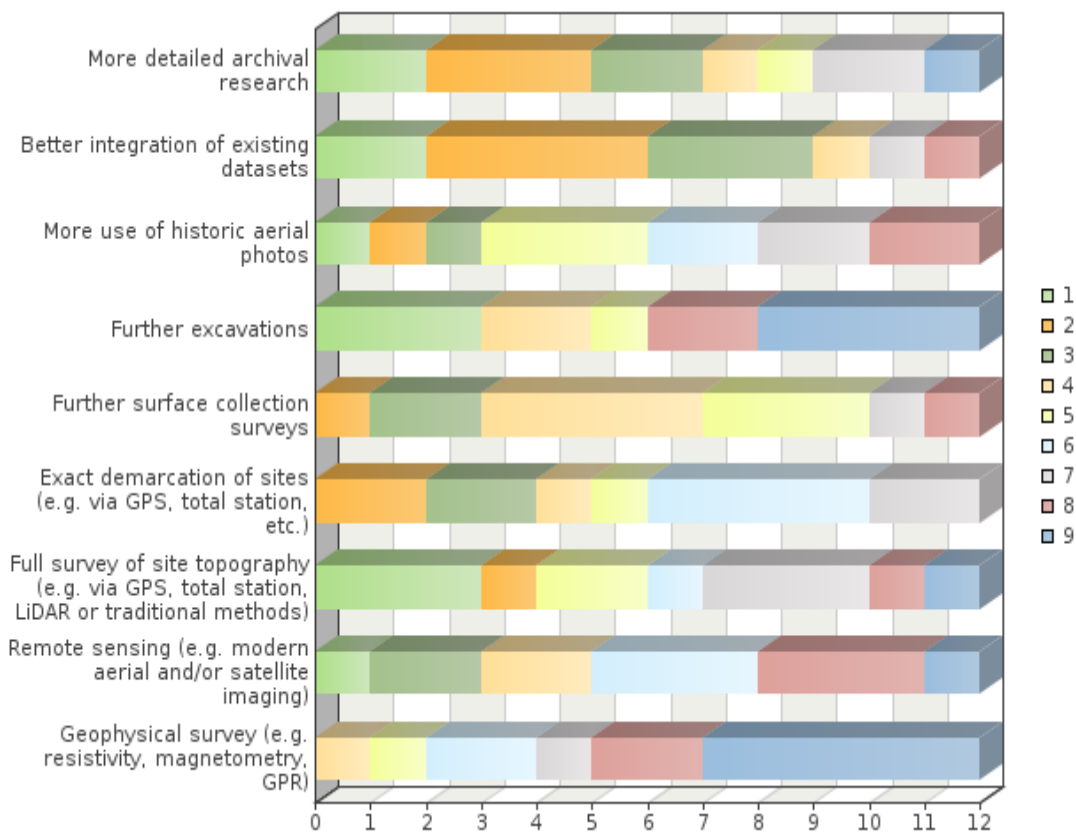
**Text input**

I think the GIS platform should be part of a holistic database accommodate all related cultural heritage data.

I think we need a database of archaeology and cultural heritage, so that all archaeologists use them as friendly. Because there are a lot of fields that can be dispensed with

**Question 10**

In your opinion, in order to enhance the current available archaeological data for Jericho, which further steps should be taken? Please prioritise the following from 1 (most important) to 9 (least important), and very briefly explain your choices below.



	1	2	3	4	5	6	7	8	9	Sum
<b>More detailed archival research</b>	2	3	2	1	1	0	2	0	1	12
	16.67%	25%	16.67%	8.33%	8.33%	0%	16.67%	0%	8.33%	100%
	1.85%	2.78%	1.85%	0.93%	0.93%	0%	1.85%	0%	0.93%	11.11%
<b>Better integration of existing datasets</b>	2	4	3	1	0	0	1	1	0	12
	16.67%	33.33%	25%	8.33%	0%	0%	8.33%	8.33%	0%	100%
	1.85%	3.7%	2.78%	0.93%	0%	0%	0.93%	0.93%	0%	11.11%
<b>More use of historic aerial photos</b>	1	1	1	0	3	2	2	2	0	12
	8.33%	8.33%	8.33%	0%	25%	16.67%	16.67%	16.67%	0%	100%
	0.93%	0.93%	0.93%	0%	2.78%	1.85%	1.85%	1.85%	0%	11.11%
<b>Further excavations</b>	3	0	0	2	1	0	0	2	4	12
	25%	0%	0%	16.67%	8.33%	0%	0%	16.67%	33.33%	100%
	2.78%	0%	0%	1.85%	0.93%	0%	0%	1.85%	3.7%	11.11%
<b>Further surface collection surveys</b>	0	1	2	4	3	0	1	1	0	12
	0%	8.33%	16.67%	33.33%	25%	0%	8.33%	8.33%	0%	100%
	0%	0.93%	1.85%	3.7%	2.78%	0%	0.93%	0.93%	0%	11.11%
<b>Exact demarcation of sites (e.g. via GPS, total station, etc.)</b>	0	2	2	1	1	4	2	0	0	12
	0%	16.67%	16.67%	8.33%	8.33%	33.33%	16.67%	0%	0%	100%
	0%	1.85%	1.85%	0.93%	0.93%	3.7%	1.85%	0%	0%	11.11%
<b>Full survey of site topography (e.g. via GPS, total station, LiDAR or traditional methods)</b>	3	1	0	0	2	1	3	1	1	12
	25%	8.33%	0%	0%	16.67%	8.33%	25%	8.33%	8.33%	100%
	2.78%	0.93%	0%	0%	1.85%	0.93%	2.78%	0.93%	0.93%	11.11%
<b>Remote sensing (e.g. modern aerial and/or satellite imaging)</b>	1	0	2	2	0	3	0	3	1	12
	8.33%	0%	16.67%	16.67%	0%	25%	0%	25%	8.33%	100%
	0.93%	0%	1.85%	1.85%	0%	2.78%	0%	2.78%	0.93%	11.11%

Geophysical survey (e.g. resistivity, magnetometry, GPR)	0	0	0	1	1	2	1	2	5	12
	0%	0%	0%	8.33%	8.33%	16.67%	8.33%	16.67%	41.67%	100%
	0%	0%	0%	0.93%	0.93%	1.85%	0.93%	1.85%	4.63%	11.11%
Sum	12	12	12	12	12	12	12	12	12	108
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	11.11%	11.11%	11.11%	11.11%	11.11%	11.11%	11.11%	11.11%	11.11%	100%

**\*Sequence of numbers in a cell:**

Absolute frequency  
 Relative frequency row  
 Relative frequency

**Text input**

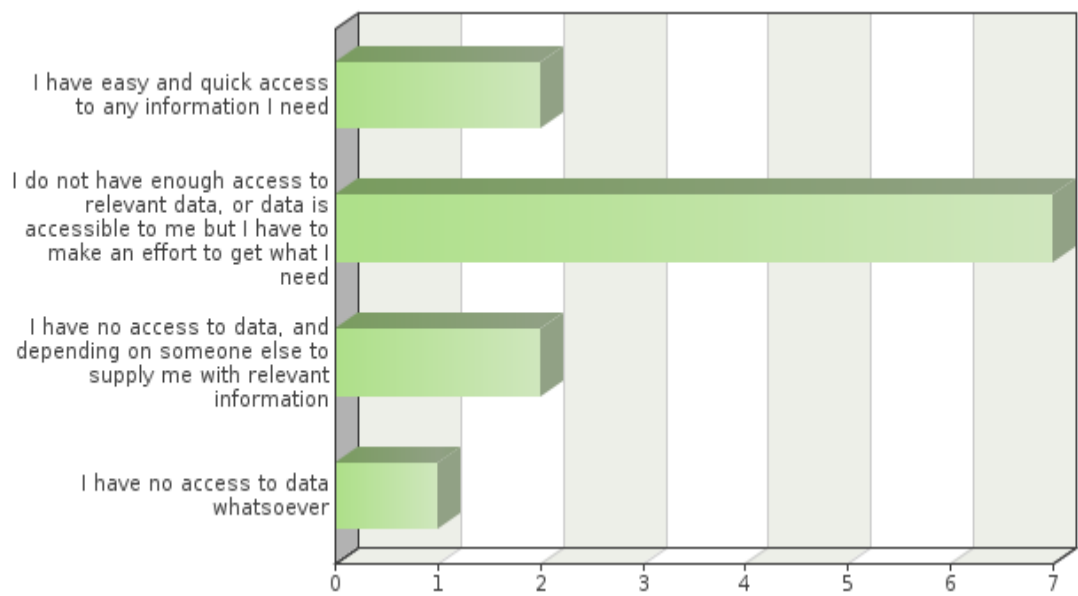
I believe that there is a lack of systematic data in the PA concerned departments; it is key to fill this gap. Archaeological excavations must be postponed to a period when the PA will be able to manage the sites and ensure their protection and enjoyment.

I did find this a bit strange "locking" for using the full scale on all the questions

I have answered with issues of management upermost in my mind, and here we have most to gain from a combination of better use of existing documentation and non-intrusive survey. My responses would potentially be reversed if we were exploring specific research questions ... where we still have an enormous amount to learn from the proper recovery and quantification of assemblages. This is work that can not be done effectively from previously excavated material because of discard policies and erratic sampling.

**Question 11**

How accessible is archaeological data (any relevant information regarding sites, including archaeological and administrative information) to you, when not published in academic or professional literature?

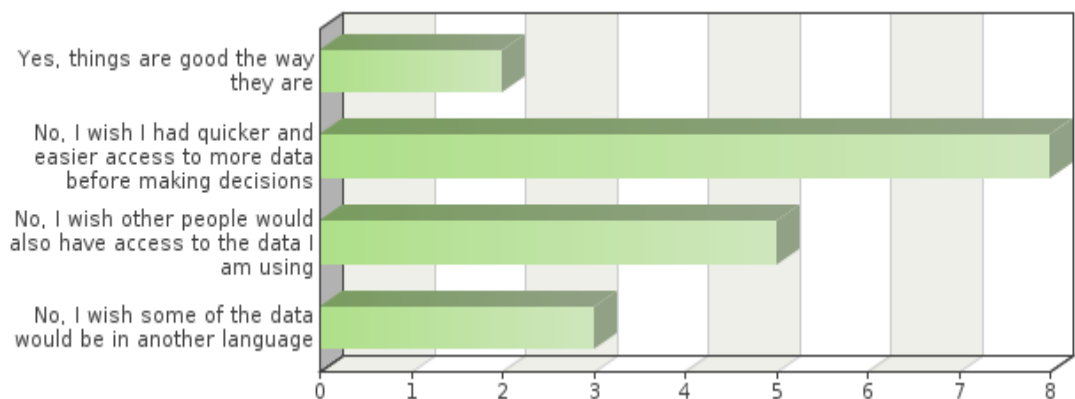


Frequency table

Choices	Absolute frequency	Relative frequency	Adjusted relative frequency
<b>I have easy and quick access to any information I need</b>	2	16.67%	16.67%
<b>I do not have enough access to relevant data, or data is accessible to me but I have to make an effort to get what I need</b>	7	58.33%	58.33%
<b>I have no access to data, and depending on someone else to supply me with relevant information</b>	2	16.67%	16.67%
<b>I have no access to data whatsoever</b>	1	8.33%	8.33%
<b>Sum:</b>	12	100%	100%
<b>Not answered:</b>	0	0%	-
<b>Total answered: 12</b>			

### Question 12

Are you satisfied with the level of accessibility to this data? (Please tick all that apply)

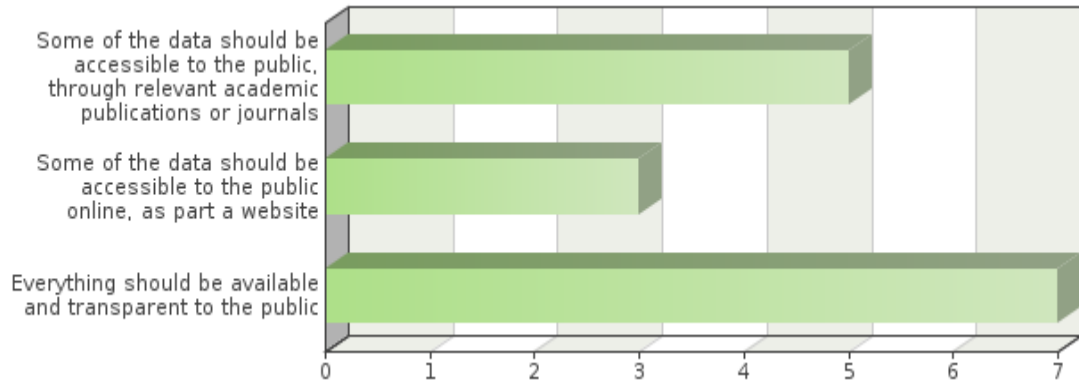


Frequency table

Choices	Absolute frequency	Relative frequency by choice	Relative frequency	Adjusted relative frequency
Yes, things are good the way they are	2	11.11%	16.67%	16.67%
No, I wish I had quicker and easier access to more data before making decisions	8	44.44%	66.67%	66.67%
No, I wish other people would also have access to the data I am using	5	27.78%	41.67%	41.67%
No, I wish some of the data would be in another language	3	16.67%	25%	25%
Sum:	18	100%	-	-
Not answered:	0	-	0%	-
<b>Total answered: 12</b>				

**Question 13**

Do you think some or all of the data you are familiar with should be accessible to the public? (Please tick all that apply)



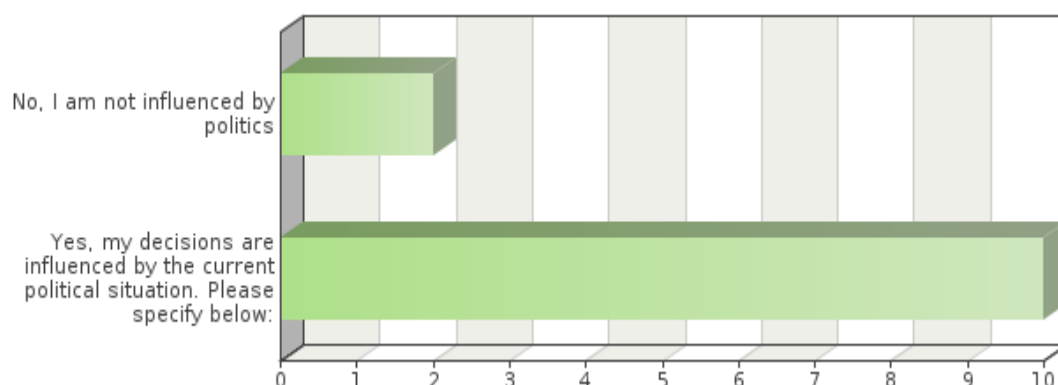
Frequency table

Choices	Absolute frequency	Relative frequency by choice	Relative frequency	Adjusted relative frequency
Some of the data should be accessible to the public, through relevant academic publications or journals	5	33.33%	41.67%	41.67%
Some of the data should be accessible to the public online, as part a website	3	20%	25%	25%
Everything should be available and transparent to the public	7	46.67%	58.33%	58.33%
Sum:	15	100%	-	-
Not answered:	0	-	0%	-
<b>Total answered: 12</b>				

**Question 14**

When conducting an archaeological project or making decisions relating to the management of heritage in Jericho, are you influenced by the current political situation in Israel/Palestine?





Frequency table

Choices	Absolute frequency	Relative frequency	Adjusted relative frequency
<b>No, I am not influenced by politics</b>	2	16.67%	16.67%
<b>Yes, my decisions are influenced by the current political situation. Please specify below:</b>	10	83.33%	83.33%
<b>Sum:</b>	12	100%	100%
<b>Not answered:</b>	0	0%	-
<b>Total answered: 12</b>			

#### Text input

Some sites are in Area C and are not accessible

The zoning derived from the Oslo Accords II is highly influencing the action in the field.

Mainly the current political situation in Israel/Palestine is the hardest obstacle facing any short and long- term strategies and decisions for the management and enhancement of the cultural heritage of Jericho. For example, the division of the Palestinian territories into (A, B, C) can't help to plan for the management and conservation of the Palestinian Heritage in Jericho. The Herod's Palaces in Jericho are split into area ( A) and (C), resulting in further damage to the site . In other words the site itself has been a victim of the Palestinian-Israeli conflict

It is not possible not to be influenced. some archaeological sites in Jericho are in are C, others have been excavated or restored in the past and we do not have access to data, many researches have been published in languages we are not familiar with, the bad economic situation and the lack of control in the territory is spreading the use of illegal excavations,

- this limits the work in many ways, what kind of work, what kind of area (not all area is accessible), and with whom one may work

1. Through which border crossing can we bring in survey equipment: from Jordan over bridge, or from Israeli airport
2. Refrain from conducting survey in an area near Israeli patrolled by-pass road
3. The difficulty in obtaining permits for our students from Birzeit University to visit the Palestine Archaeology (Rockefeller) Museum in Jerusalem, to see archaeological material from Hisham's Palace

As Anna Lindh Foundation, we try to promote projects which support mutual understanding and peaceful conflict solution through an intercultural approach. With respect to arxcheological research, our concern is to avoid ideological manipulation of research and discovery of common grounds.

if i say i am not influenced i will be not seing the truth

My main reason for becoming involved in work in the West Bank was in the hope that this would contribute to the rehabilitation of the archaeology department at Birzeit, and this was in turn born of an interest in the political importance of cultural heritage.

### Question 15

Is there anything else you wish to add?

#### **Text input**

I hope everybody can use database a friendly

Good luck

Wish you a good luck in your study

i wish that the result of your work will be available for us in the future

my apologies for not having responded more promptly!

### APPENDIX III: HISHAM'S PALACE FIELD EXERCISE

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The aim of this exercise is to simulate the process of data recording and decision making for the management of archaeological sites as cultural resources. How would you record and manage the site of Qasr Hisham?

Please record the following information:

*Date:*

\_\_\_\_\_

*Site Name(s):*

\_\_\_\_\_

*Surveyor Name:*

\_\_\_\_\_

*GPS Device:*

Which GPS device are you using (e.g. Magellan SporTrak, Garmin GPS 12 Map, etc.)?

\_\_\_\_\_

*GPS Coordinates:*

Record GPS coordinates for the main part of the site by walking around it, creating a polygon of its area and shape. In addition, record GPS positions for specific features at the site (e.g. a cave, spring, cistern, installation, etc). You may choose to record those features as point-data (one GPS position), a line of GPS points (e.g. for an aqueduct), or polygons (for large structures, for example).

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*Components:*

What are the main components of the site? These may include structural remains, installations, architectural elements, small finds, pottery, etc.

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*Context:*

What is the current context of the site? For example: inside a Palestinian settlement, open area, private lands, agricultural area, close to modern road, inside an industrial zone, etc.

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*Accessibility:*

How accessible is the site in general? More specifically, who can access the site and who cannot? How easy or difficult it is to get to the site? Is the public restricted from parts of the site?

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*Condition:*

General assessment of the site's condition: whether it had been damaged or looted, whether the site is well protected and stable or parts of it are unstable or vulnerable, or whether the site is well or ill-maintained. The condition of the site may be indicated as follows: excellent, good, fair, poor, very poor.

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*Difference:*

If known – how is the current site's status and condition different from the way it was when first recorded?

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*Threats:*

Visible or potential threats or risks to the site; these could be natural forces such as erosion, vegetation, or material deterioration; human actions such as visitation, looting, vandalism, inappropriate development in or near the site, or lack of maintenance or neglect.

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*Current Management:*

Is the site maintained? Is it fenced? Are there signs, and if there are – what information do they include, and what is left out?

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*Previous Interventions:*

Indicating whether the site was excavated, fenced, whether signage was placed, or any other intervention after it was first recorded.

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*Value:*

What kind of values does the site have? Archaeological or scientific value, aesthetic, historical value?

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*Recommended Action:*

Actions that should be taken for the benefit of the site: monitoring, conservation, cleaning, maintenance, or recording.

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*Urgency of Action:*

Level of urgency for taking action in the site: No treatment, desirable, necessary, urgent.

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*Comments:*

Any other information you find relevant: personal impressions and experiences at the site, more about the site's context, etc.

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Following are a few satellite images of the palace and its surroundings. Each image includes a demarcation of a proposed area that would benefit from extra protection, preservation and presentation to the public. Which of the following options would you consider best for the managed area of Qasr Hisham? If you think of something different, please draw it on the last image.

Option 1:





Option 2:



Option 3:



Option 4:





Option 5 – Please draw your preferred managed area for Qasr Hisham:



## APPENDIX IV: HISHAM'S PALACE FIELD EXERCISE - RESULTS

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### STUDENT 1

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**Components:** Structural remains, architectural elements – both *in situ* and re-located (previously excavated), mosaics, small finds and pottery (previously excavated and in the museum), sculpture. Water management installations/aqueduct in surrounding landscape.

**Context:** Largely agricultural area, near to a not-so-modern road, surrounded by private farmland. Palestinian area. Sections of aqueduct within private land.

**Accessibility:** The site is accessible to visitors during opening hours only. Parts of the site are gated off and some areas are only accessible by stairs. The site can be reached by car. The surrounding water management systems are accessible at all times, subject to landowner permission BUT accessibility is restricted due to the locations of sections for mobility impaired persons.

**Condition:** The condition of the site is good and appears well managed, however visitors (especially children) are permitted to climb over structural remains and there is visible graffiti. The mosaics are very vulnerable and access is restricted. The structural elements appear to be in decent condition but there are signs of deterioration.

**Difference:** Unsure – was not present.

**Threats:** Visitation or vandalism are obvious causes of deterioration considering aforementioned graffiti and climbing over structures. Looting is not a problem as finds are secured in museum. Grass/weeds are growing through cracks which ought to be addressed.

**Current Management:** The site is fenced off and accessible through large gates, however the security of these elements is possibly ineffective – however there do not seem to be any threats posed by locals. There are a scattering of signs located throughout the site but some areas are unlabelled. They have installed ramps in some areas to improve accessibility and protect elements such as staircases. Sections of aqueducts have been left open but some backfilled after recording.

**Previous Interventions:** Unsure – however, the large mosaic floor in the hall has been covered with sand again to protect its integrity.

**Value:** Very important historic value for Early Islamic period – with many elements providing unique information on the way the Umayyad ruling class lived (in luxury). The baths especially may provide archaeological support for works such as the book of songs detailing the hedonistic lifestyle of Umayyad rulers. It is also a site of great aesthetic value – especially the very fine sculptural elements and mosaics.

**Recommended Action:** Action should be taken for the deterioration of the stone, which is currently being experimented on. The site would be benefitted by some gardening and protection of some more of the floor surfaces. Action should be taken to protect closed off/covered over areas so that they may be preserved AND visible to the public. Plans are underway to build a structure to shelter the mosaic floor.

**Urgency of Action:** Action not necessarily urgent as there are plans underway and vulnerable areas are fairly well protected. Treatment is desirable to necessary.

**Comments:** It would be useful to provide further links with the palace and its environment, which we have been continuing to undertake with landscape surveying and exposure of aqueduct sections. It would also be useful to learn more about the connection with the site and nearby contemporary settlements. However, it is becoming clear that the aqueduct may have served the palace, agricultural lands and a possible nearby Early Islamic settlement which is yet to be excavated.

**Boundaries:** Option 4 + Comment: Or, as wide an area as possible to include surrounding landscape and water management systems:



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## STUDENT 2

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**Components:** Structural pieces, and there are some pottery [vessels] in the museum inside the palace; the water system including the hot and the cold rooms; decoration floor in the bath; and the human figures in Rockefeller Museum in Jerusalem. The palace in general with all the architectural elements is a good example of Islamic art.

**Context:** The site of the palace is next to agricultural area from the north, and from the other directions are open area; it's less than one kilometre away from the main road.

**Accessibility:** It's not so difficult to get to the site; especially everybody from the West Bank can enter the site, because the Palestinian archaeology and Antiquities is the owner of the site.

**Condition:** In the past the site was damaged by several earthquakes so some parts of the palace are unstable, so they need more protection. Moreover, some people had stolen some of the stones from the palace to build their houses, but nowadays it's well protected and the conditions are good.

**Difference:** Actually I don't know the conditions when it was first recorded.

**Threats:** One of the threats to the site is the some group's visits to the palace; they don't know how they must deal with archaeological sites, and that is considered as vandalism for the site; and the inappropriate development near the site is not suitable because it can be dangerous.

**Current Management:** It's well maintained; and it's surrounded by a fence, there are signs to show people some short information but it's not as useful as it must be. The signs must show the visitor more details about every part, and they must include more information.

**Previous Interventions:** It was excavated and fenced, then it was restored, then everything was recorded.

**Value:** It has archaeological, scientific, aesthetic, and historical values.

**Recommended Actions:** There are many parts that are not recorded – they must be recorded; then it needs more monitoring ; besides, they need to do more excavations on the site because there are some parts that are not yet known.

**Urgency of Action:** Necessary, urgent.

**Comments:** This site is one of the most important sites in Palestine, it's really a fantastic site. They need to do more pressures to let everyone know about the palace; then they need to put and record more accurate information, especially on the websites.

**Boundaries:** Option 3 + boundary drawn on last map (excluding agricultural fields to the east of the palace, including vast area to its west):





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### STUDENT 3

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**Components:** Structures like bathrooms, big rooms, *appeare(?)* structures; pottery, water system, agriculture; floors, columns, mosaic, big halls, gates, walls, Diwan hall, pools.

**Context:** Palestinian settlement, agricultural area, close to modern road.

**Accessibility:** I think that everyone can enter the palace; accessibility to the site in general - it's easy to get to the site.

**Condition:** The site is not well protected, not well maintained. The condition of the site may be indicated as poor.

**Difference:** I don't know.

**Threats:** Potential risks to the site: material deterioration like human actions, such as visitation, vandalism, lack of maintenance; like school students visitation.

**Current Management:** The site is maintained, fenced, there are signs, but it gives the visitors (?)...information, and not specific information.

**Previous Interventions:** Site was excavated, fenced, and signage was placed.

**Value:** It has archaeological and scientific value, and very important historical value.

**Recommended Actions:** There are a lot of actions that should be taken for the benefit of the site: monitoring, conservation, cleaning, maintenance and recording.

**Urgency of Action:** It's urgent urgency.

**Comments:** The site is a very important site in Palestine, and it gives important archaeological Islamic remains that should be protected, because it is a good evidence of Islamic buildings.

**Boundaries:** Option 4 + a square around the palace drawn on last map:







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#### STUDENT 4

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**Components:** The whole palace, aqueduct of the water [system], the wall, columns, mosque, structures, pottery, jars, juglets, glasses, Mirhab, gates, toilets, entrance, cooking jars, decoration, pots, *powell(?)*, plasters, sandstones, mosaic floor.

**Context:** It is near an agricultural area, behind a modern road. Today it is open area. There are a few houses behind the palace.

**Accessibility:** It is easy to get to the site; everyone can get in easily. There are tickets at the entrance of the palace, and it is very cheap.

**Condition:** The condition of the site is good. We can see the attention of the Department of Antiquities inside the palace, but it is not enough. The palace is open and big, so it is very easy to get inside the palace and steal some parts. Some parts are better protected than others, like some columns, and some parts have been restored like the main stairs.

**Difference:** Sure, today the palace has been fixed and restored.

**Threats:** Maybe natural forces like earthquakes; human actions like school children who may play and move the palace stones; new building will be built near the palace; looting the materials.

**Current Management:** There is a fence around the site. There are signs near every part of the palace, but it is not enough – very simple information. There is no information about the whole *que(?)* behind the palace and why it was built.

**Previous Interventions:** The site was excavated, fenced, restored, and intervention; it is recorded.



**Value:** The values I think everything: archaeological and scientific, aesthetic, history, art.

**Recommended Actions:** Conservation, recording, maintenance, also monitoring.

**Urgency of Action:** Necessary, urgent

**Comments:** The site is very important. I think we have to document everything relevant to the palace. This site shows us the beautiful arts of the Umayyad period. I think the Department of Antiquities has to develop the site more, and to publish more books and information about the palace.

**Boundaries:** Option 4:



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## STUDENT 5

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**Components:** The site has many structures, from the entrance onwards, as the remaining of the walls “rooms”, mosque, baths, etc. The artistic small finds are situated in the “Palestine Archaeology Museum”; they are rich in variety and subjects of inspiration, such as the plaster figures. There are beautiful mosaics in the baths that I suppose are the *greatest(?)* remaining within the site itself.

**Context:** It is in an open area, near urban development. It is also close to the main road; the area in its surroundings is agricultural.

**Accessibility:** Generally it isn’t hard to visit the site, any person can pay for entrance, then get in; there is no guide though to help, and none to restrict visitors’ activities, but it has areas such as the cold bath, where visitors cannot get in, and the mosaic in the warm baths is always covered.

**Condition:** I believe the conditions are poor. The first restorations by the Jordanians were quick restorations that damaged the appearance of the site, as well as some of the structures. Nowadays, there is no inspector to observe visitors' behaviours towards sites' structures. They try to preserve the mosaic by covering it, but that prevents visitors from seeing them.

**Difference:** I am not sure.

**Threats:** It is suffering all kinds of threats: erosion because it is exposed, deterioration, human actions as vandalism, they carve and write things on the structures. There is lack of maintenance; it could be better, but it isn't completely neglected.

**Current Management:** The site's maintenance could be better, but it is fenced. There are signs; they include palace's names before reaching the site; inside the site the signs are also poor in information, they should be clearer and more descriptive.

**Previous Interventions:** Few interventions were indicated: it was fenced, few signs were situated, and it was renovated also.

**Value:** It has archaeological/historical/aesthetic and scientific.

**Recommended Actions:** I recommend building some sort of an umbrella above the whole site, not only over the mosaic, for protection. Continuing the conservation and correcting the bad restoration that's been done before; and it should be monitored, many structures still not recorded yet!

**Urgency of Action:** Necessary, in terms as on a while many structures as the "Stars Motif" will be damaged (it has already been written on).

**Comments:** I love the site, it has a wonderful structure; I wish the artefacts remaining are in a museum within the site though.

**Boundaries:** Option 5 + partial demarcation on the map, choosing a vast area around the site:



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## STUDENT 6

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**Components:** Architectural elements are the main component, on this site, baths are very important structures, the water system of the bath is something important; pottery, sculptural pieces were found in the palace, the importance of the *mirhab* in the palace. The palace has a lot of columns, it has the most important and the biggest mosaic floor in the Middle East, the palace has a lot of floral decorations, especially in the bath.

**Context:** The site is in an agricultural area in a Palestinian settlement, and it is closed to a modern road which is about 0.5 km away from the site.

**Accessibility:** The site is accessible for all people, but not all parts of the palace are accessible, except the cold bath and the Diwan in the big bath where the mosaic floor is, and the site doesn't have a direct access with taxis from the city centre to it.

**Condition:** The site is not well protected in the matter when people come to visit the site. The site had been damaged, and it is being protected, but in some parts (the mosaic in the bath). The site also has some parts where it is unstable and needs to be protected. Nowadays, there are some works to try to construct the site and renovate the site; but they are not that much.

**Difference:** The site now is being renovated, but some of these works are not harmonious with the site. For example (the columns in the bath) some are being done with concrete, but the site is in a much better state.

**Threats:** The most important threats are the human visitation, the weather conditions, vandalism and also inappropriate development near the site.

**Current Management:** Yes, the site is fenced, but not a strict fence, and there are some signs in the site, but they do not include a lot of information about the palace. The information includes only the cold bath, the main court and the main entrance. What is left out is more information about the structure, the decoration, the life of the palace, and the water system of the palace, the cover of the palace.

**Previous Interventions:** Yes, the site has been excavated and fenced, and there are signs, it has also been renovated.

**Value:** The site has archaeological and scientific, aesthetic, historical and architectural value.

**Recommended Actions:** Conservation, cleaning the grass, and it needs more maintenance, monitoring and protection from people, and it needs more recording.

**Urgency of Action:** Necessary, and some parts urgent.



**Comments:** The site is an important site, where it has lots of things to see in and understand. From my experience at the site, the palace needs to have paths for people; some parts should not be accessible to people. The site is an individual part, [but] it is associated with the whole site, where the water system should be conserved also, because the palace has a lot of baths.

**Boundaries:** Option 5 + drawing on the map, like Option 4 but extending more to the NW:



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## STUDENT 7

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**Components:** There are many components [which] include structural remains, such as the palace, the bath, the mosque, and the pool, and there are many pieces of columns and stones, and there are some types of decorations such as carved stones, stucco, mosaics and wall paintings; and there are small finds like pottery, and it's [dated] to Early Islamic period.

**Context:** I think it's an open area, and at the same time it's an agricultural area, and the site created to manage the people who live there.

**Accessibility:** In my view, it's easy to access the site, and I think that most people can access the site; but there are some places that the public people cannot access.

**Condition:** The site was used, and I think that an earthquake happened and damaged the site, then the site was deserted, and I think no one reused it, until Hamilton excavated it.

**Difference:** I believe there was no difference until Hamilton recorded it, and the recording [that's taking place] now.

**Threats:** It should be threats, and it could be natural forces such as earthquakes, and it could be human actions, because I saw some trying to damage the site.

**Current Management:** Yes, it's kind of maintained and it's fenced, and yes, there are some signs, and they include [information] about what is this place, and the plan, and how it [is/was] built.

**Previous Interventions:** Yes, it was excavated, fenced and restored.

**Value:** In my view it has all of these, so it has an archaeological and scientific, aesthetic and historical value.

**Recommended Actions:** It should be take all of benefit of the site, like monitoring, conservation, cleaning, maintenance and recording.

**Urgency of Action:** It's urgent.

**Comments:** I suggest recording all elements that are included in the site, such as the water management and al-Hair Wall.

**Boundaries:** Option 3 + demarcation on the last map, very vast area around the palace:



## APPENDIX V: ARCHAEOLOGICAL PARK OF THE JERICHO OASIS – CLASSROOM EXERCISE


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### INTRODUCTION




























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This exercise deals with the management of the cultural resources in Jericho and its surroundings. It will examine decision making regarding the boundaries of a proposed archaeological park for the Jericho Oasis, including special cultural zones and specific archaeological sites within it. The platform used in the exercise is Google Earth, in conjunction with spatial geographic layers and four archaeological and architectural databases created by both Palestinian and Israeli institutions. The first session will be dedicated to learning how to use Google Earth, browse the data and create and save new polygons. The second session will include three tasks, where you will be asked to make decisions about significant areas of cultural heritage management in Jericho.









You should receive five KMZ files: DACH, RIWAQ, SOA, WBEJAD and West Bank and Jericho. These are Google Earth files, which include different databases and spatial layers for Jericho and its environs. The following table describes this data:

File Name	Database/Spatial Layers		
DACH.kmz	This is a segment of the official Palestinian Department of Antiquities and Cultural Heritage database. Important information on each file includes its name, type and class (main site or feature); sites that are managed for tourists are indicated as 'yes' under the Tourism column, and some are indicated as 'Excavated'.		
	<i>Layer</i>	<i>Symbol</i>	<i>Description</i>
	DACH Sites		Archaeological sites



RIWAQ.kmz	<p>This is a segment of the registry of historical buildings and archaeological sites created by the Palestinian NGO Riwaq. For this exercise, important fields are names and types, when available.</p> <table border="1"> <thead> <tr> <th><i>Layer</i></th> <th><i>Symbol</i></th> <th><i>Description</i></th> </tr> </thead> <tbody> <tr> <td>RIWAQ Houses (1-6)</td> <td></td> <td>Architectural elements</td> </tr> <tr> <td>RIWAQ Architectural Sites</td> <td></td> <td>Architectural elements</td> </tr> <tr> <td>RIWAQ Buildings</td> <td></td> <td>Architectural elements</td> </tr> <tr> <td>RIWAQ Complex Archaeological Sites</td> <td></td> <td>Large/important archaeological sites (the polygons don't mark their actual area, just the location)</td> </tr> <tr> <td>RIWAQ Archaeological Sites</td> <td></td> <td>Archaeological sites</td> </tr> </tbody> </table>	<i>Layer</i>	<i>Symbol</i>	<i>Description</i>	RIWAQ Houses (1-6)		Architectural elements	RIWAQ Architectural Sites		Architectural elements	RIWAQ Buildings		Architectural elements	RIWAQ Complex Archaeological Sites		Large/important archaeological sites (the polygons don't mark their actual area, just the location)	RIWAQ Archaeological Sites		Archaeological sites
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RIWAQ Complex Archaeological Sites		Large/important archaeological sites (the polygons don't mark their actual area, just the location)																	
RIWAQ Archaeological Sites		Archaeological sites																	
SOA.kmz	<p>This is a segment of the official database of the Israeli Staff Officer for Archaeology in Judea and Samaria. The archaeological sites are divided into points and polygons; a point indicates the general location a site, whereas a polygon demarcates its exact area. While there is not much available information on the polygons, the point-data sites include some important data such as place description and identification, site location and land ownership, and site periods.</p> <table border="1"> <thead> <tr> <th><i>Layer</i></th> <th><i>Symbol</i></th> <th><i>Description</i></th> </tr> </thead> <tbody> <tr> <td>SOA Sites (Points)</td> <td></td> <td>Archaeological sites marked as point-data</td> </tr> <tr> <td>SOA Sites (Polygons)</td> <td></td> <td>Archaeological sites marked as polygons</td> </tr> </tbody> </table>	<i>Layer</i>	<i>Symbol</i>	<i>Description</i>	SOA Sites (Points)		Archaeological sites marked as point-data	SOA Sites (Polygons)		Archaeological sites marked as polygons									
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SOA Sites (Points)		Archaeological sites marked as point-data																	
SOA Sites (Polygons)		Archaeological sites marked as polygons																	
WBEJAD.kmz	<p>This is a segment of the Israeli West Bank and East Jerusalem Archaeological Database, which includes archaeological sites surveyed or excavated by Israeli institutions from 1967 to 2007. Important data here includes the site name, periods, and major site components.</p> <table border="1"> <thead> <tr> <th><i>Layer</i></th> <th><i>Symbol</i></th> <th><i>Description</i></th> </tr> </thead> <tbody> <tr> <td>WBEJAD Surveyed Sites</td> <td></td> <td>Archaeological sites surveyed by Israel since 1967</td> </tr> <tr> <td>WBEJAD Excavated Sites</td> <td></td> <td>Archaeological sites excavated by Israel since 1967</td> </tr> </tbody> </table>	<i>Layer</i>	<i>Symbol</i>	<i>Description</i>	WBEJAD Surveyed Sites		Archaeological sites surveyed by Israel since 1967	WBEJAD Excavated Sites		Archaeological sites excavated by Israel since 1967									
<i>Layer</i>	<i>Symbol</i>	<i>Description</i>																	
WBEJAD Surveyed Sites		Archaeological sites surveyed by Israel since 1967																	
WBEJAD Excavated Sites		Archaeological sites excavated by Israel since 1967																	



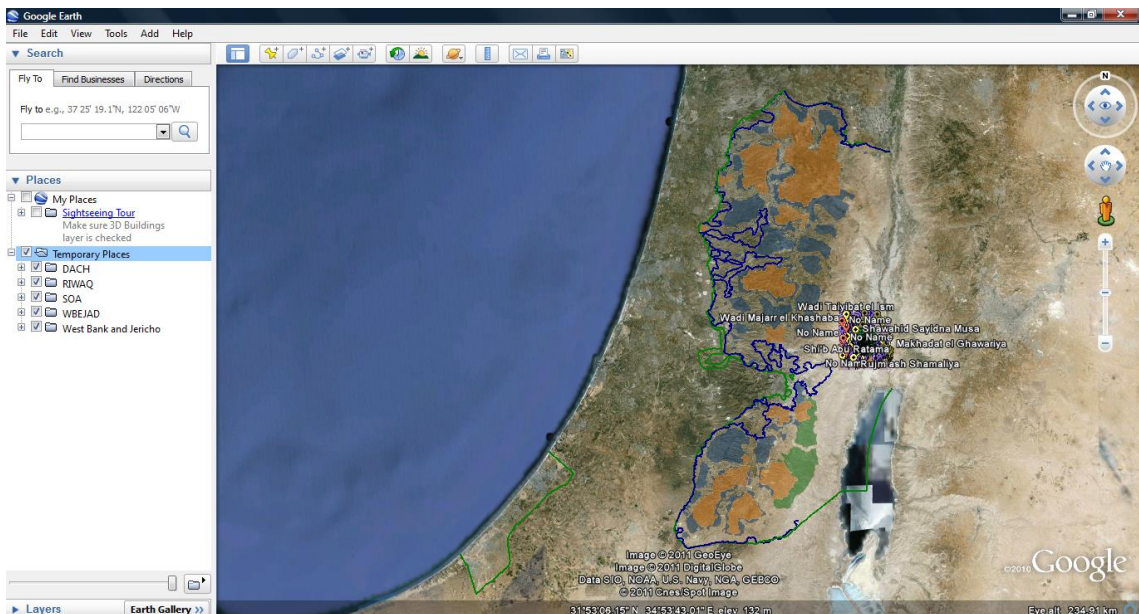
West Bank and Jericho.kmz	Demographic and political spatial layers.		
	<i>Layer</i>	<i>Symbol</i>	<i>Description</i>
	RIWAQ Area of Data		Selected area of data derived from the Riwaq database
	WBEJAD DACH SOA Areas of Data		Selected area of data derived from the WBEJAD, DACH and SOA databases
	Jewish Localities around Jericho		Israeli settlements around Jericho
	Palestinian Localities around Jericho		Jericho and other Palestinian settlements around it
	Jericho Oasis		Geographic area of the Jericho Oasis
	Green Line		Armistice line of 1949, separating the West Bank from Israel
	Separation Barrier		Route of the separation fence between the West Bank and Israel
Areas of Jurisdiction (A, B, C): Area A Area B Area C Nature Reserve Special Case		Areas of national jurisdiction in the West Bank. Areas relevant to Jericho are Area A (full Palestinian control) and Area C (full Israeli control)	

## SESSION 1

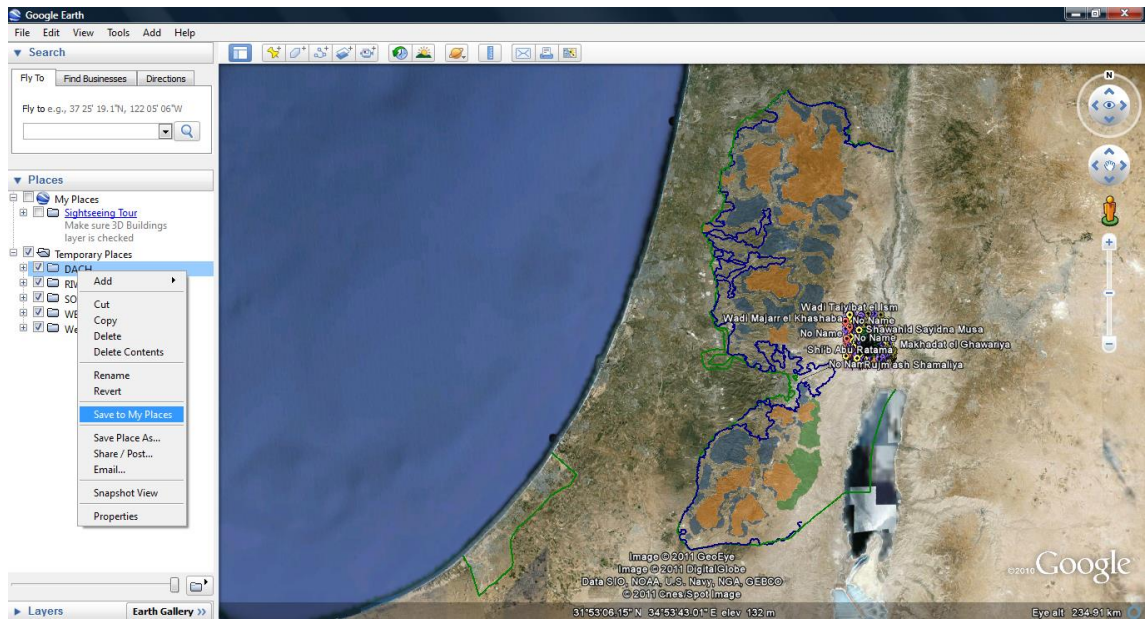
1. Download and install Google Earth (if not previously installed) from here: [http://www.google.co.uk/intl/en\\_uk/earth/index.html](http://www.google.co.uk/intl/en_uk/earth/index.html)
2. Open Google Earth. Please un-check all layers appearing under Layers → Primary Database on the sidebar, and then minimise 'Layers' by clicking on the triangle icon to its left:



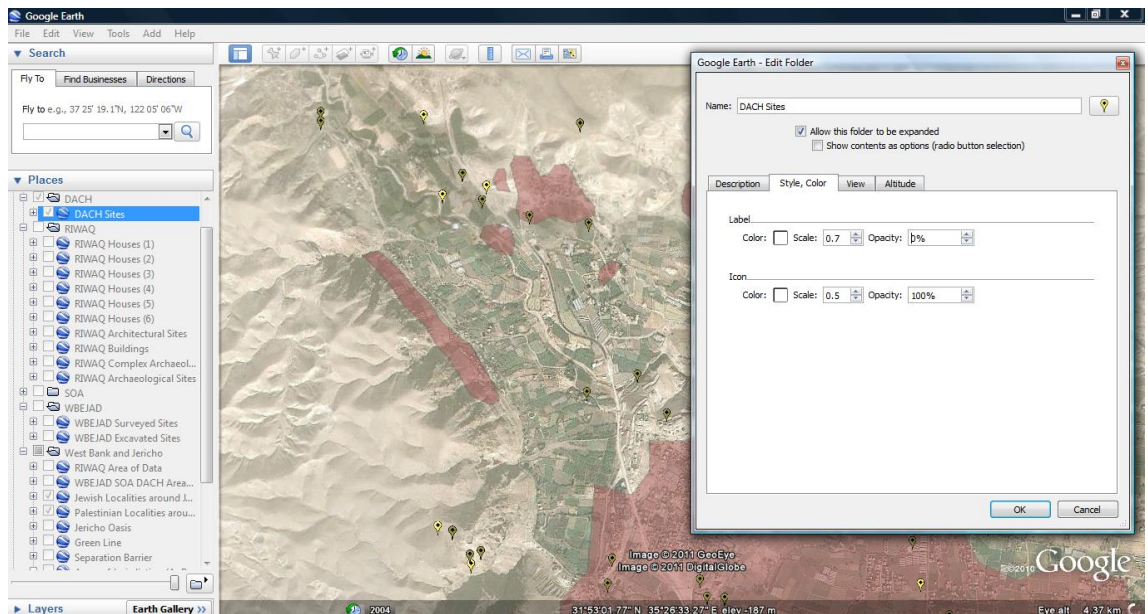
3. Double-click each of the five KMZ files that you received, so that they are all open in Google Earth. These layers now appear under 'Temporary Places' on the sidebar:



4. Save each file to 'My Places': Right-click on each layer → Save to My Places. Now it is safe to close and re-open Google Earth without losing any data:

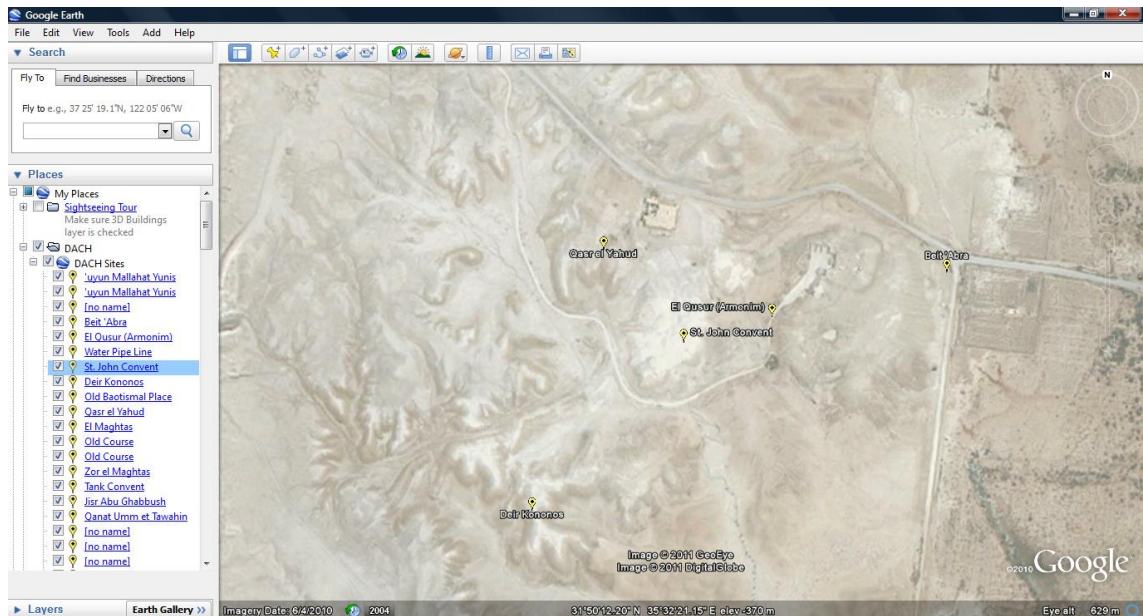


5. Browse the data! Double-clicking a layer on the side bar will zoom to the maximum view of that layer. One click on any icon on the map will open an information balloon with data on each site as it appears in the original database.
6. If you wish to turn labels (site names) on and off, do the following: Right-click on the layer on the sidebar → Properties. Go to 'Style, Color' tab and change the label opacity to 0%. Click 'OK'. Changing it back to 100% will display site names again:




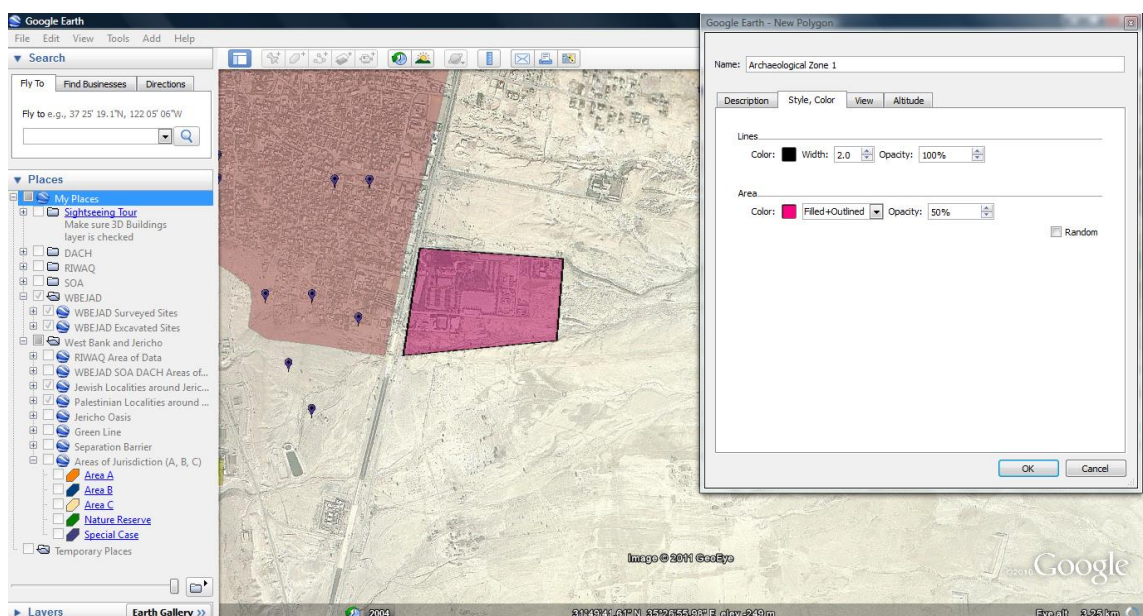
7. Try expanding each layer on the sidebar and viewing its list of sites. Double-clicking on a site name on the sidebar will zoom into that site on the map:





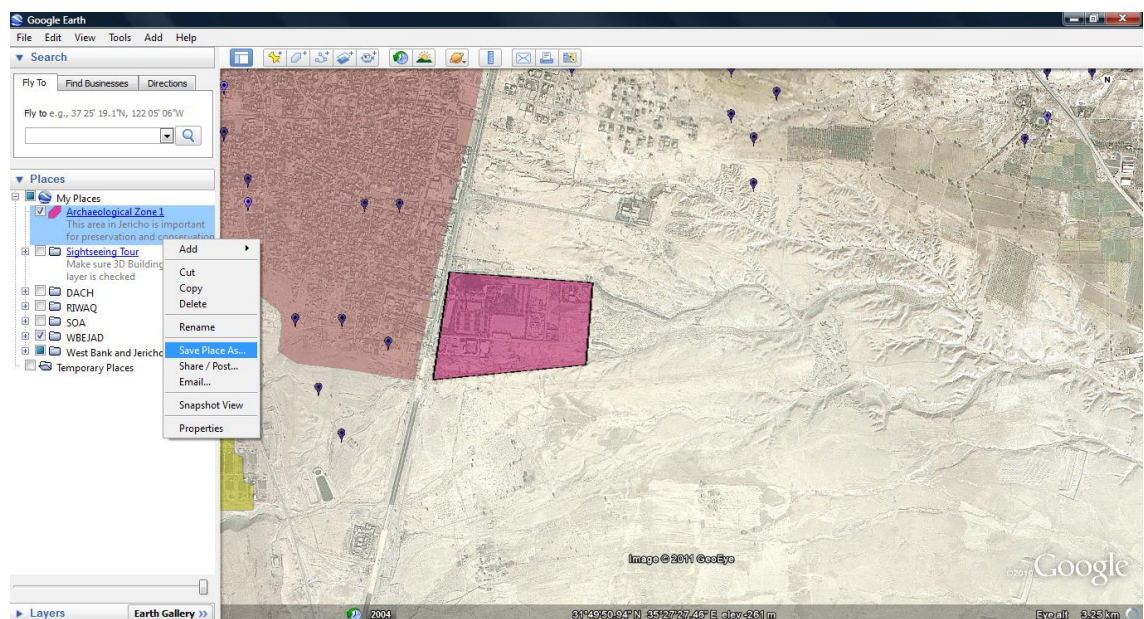
8. Practice the creation of polygons on Google Earth and add a description to them:

- a. Zoom into any area of your choice.
- b. In the top toolbar, click the 'Add Polygon' icon:  Or, alternatively, choose Add → Polygon from the top menu.
- c. A dialogue box with the new polygon's properties will open up. A few things are relevant here:
  - i. Name: choose a name for the new polygon, i.e. Archaeological Zone 1.
  - ii. Description: add a description, i.e. "This area in Jericho is important for preservation and conservation."
  - iii. Under the 'Style, Color' tab you can choose the polygon's colour and opacity. Choose a nice colour and outline for you polygon.
- d. Before clicking 'OK', you need to draw your new polygon. You define the boundaries of the polygon by clicking once on the map on each point of the polygon's boundaries. At the end click 'OK'.



You may notice this is not a very intuitive process, so take your time and practice it a few times. Also, you may want to leave a space for the dialogue box, as in the example above, so the boundaries of your polygons don't have to go to the area behind it.

- e. The new polygon will appear in the sidebar. Drag-and-drop that layer to 'My Places', so it appears right at the top – it would be easier to find it later that way.
- f. You can edit its description by right-clicking the layer → Properties. Editing the polygon's shape on the map is also possible, but can be tricky – so it's better to get it right at a one-time demarcation.
- g. Right-click on the polygon layer → Save Place As... Save that layer as Archaeological Zone 1.kmz on your computer:



The new KMZ file that you've created can now be re-opened in Google Earth any time by double-clicking it. And you're done!



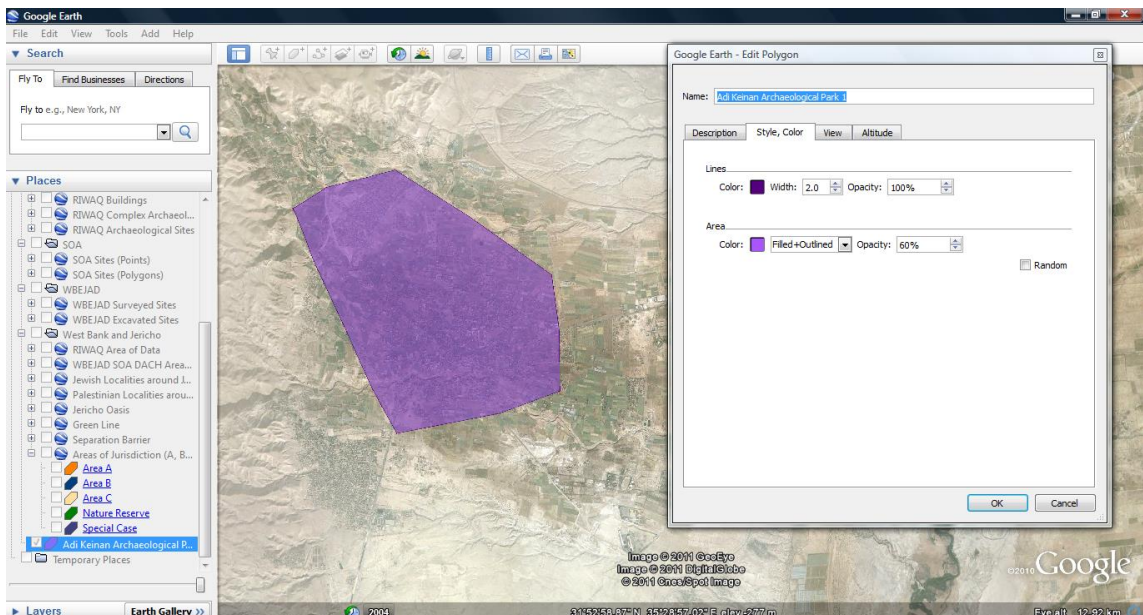
## SESSION 2

This session includes three tasks in which you will be asked to define heritage management areas in Jericho: the entire zone of a proposed 'archaeological park' for Jericho, three areas of major importance inside that zone, and finally the boundaries of the managed area of Tell es-Sultan. If you wish to add any comments or thoughts, you are more than welcome to write them after finalising the third task.

### TASK 1

The first task requires you to make decisions about the area which, in your opinion, should be declared as an official archaeological park of the Jericho Oasis, as a focused area of interest for protection, preservation and presentation to the public. This area will be treated as a cohesive landscape that is subject to an overall heritage management plan, which will include decisions on enhancement and development, protection and conservation, and controlling and monitoring of the existing cultural heritage: how would you view the boundaries of this park?

1. Open Google Earth and zoom into Jericho. Turn off all layers (the five KMZ files), so that only the satellite image of the area is viewed. Create a polygon indicating the area you would consider to be the archaeological park of the Jericho Oasis. Call it 'YOUR NAME Jericho Archaeological Park 1', and save it as a KMZ on your computer. For example:



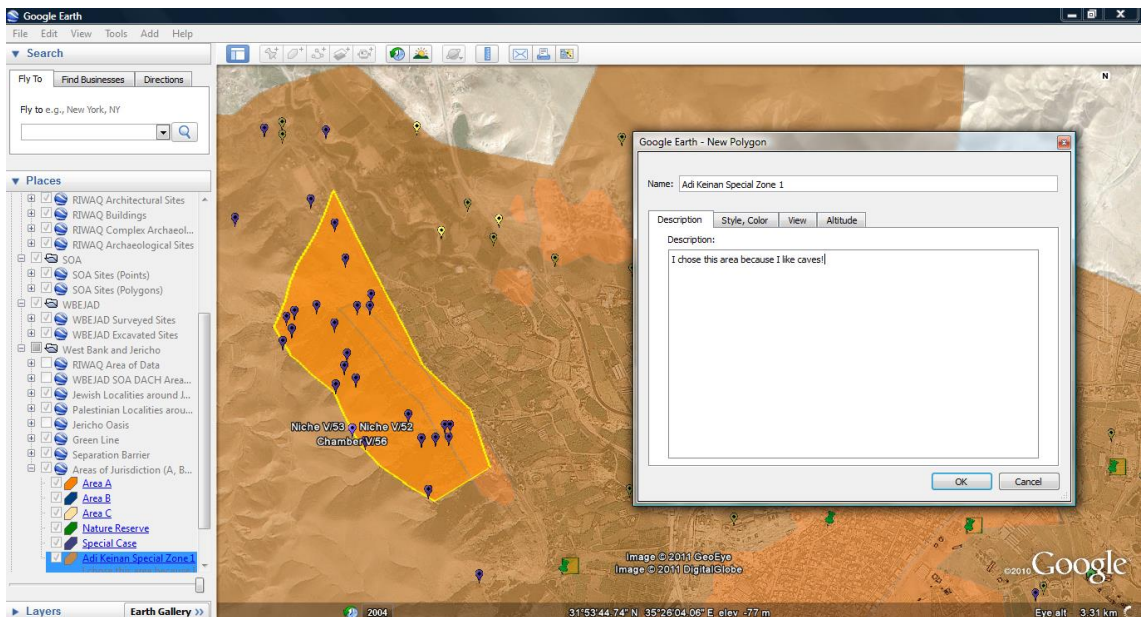
2. Turn on the spatial layers of 'West Bank and Jericho'. Does the viewing of these layers change your decision about the proposed park? If so, please create a new polygon called 'YOUR NAME Jericho Archaeological Park 2', and save it as a KMZ file.
3. Turn on all the database layers – SOA, DACH, WBEJAD and RIWAQ. Does the viewing of these layers change your decision about the proposed park? If so, please create a new polygon called 'YOUR NAME Jericho Archaeological Park 3', and save it as a KMZ file.

4. In the description area of the last polygon you've create, please describe the factors considered when making the choices you did.

## TASK 2

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This task requires you to make decisions about specific areas in or around Jericho, which in your opinion are of high significance and deserve more attention. Which areas in Jericho should be more invested in? Take into consideration budget limitations – if you could choose only three areas in Jericho which you think deserve special care, which ones would you choose? For example:



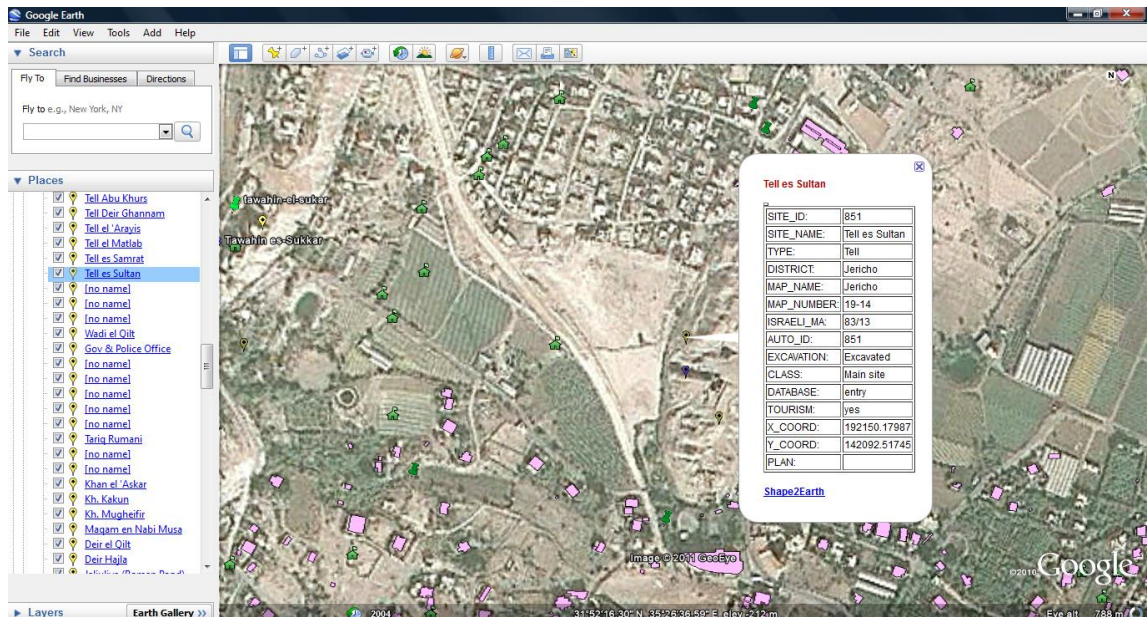
Use any of the layers that may be relevant for you decisions. Create three polygons, and call them 'YOUR NAME Special Zone 1', 'YOUR NAME Special Zone 2' and 'YOUR NAME Special Zone 3'. In each polygon's description, explain what made you choose that area. Save the polygons as KMZ files on your computer.

## TASK 3

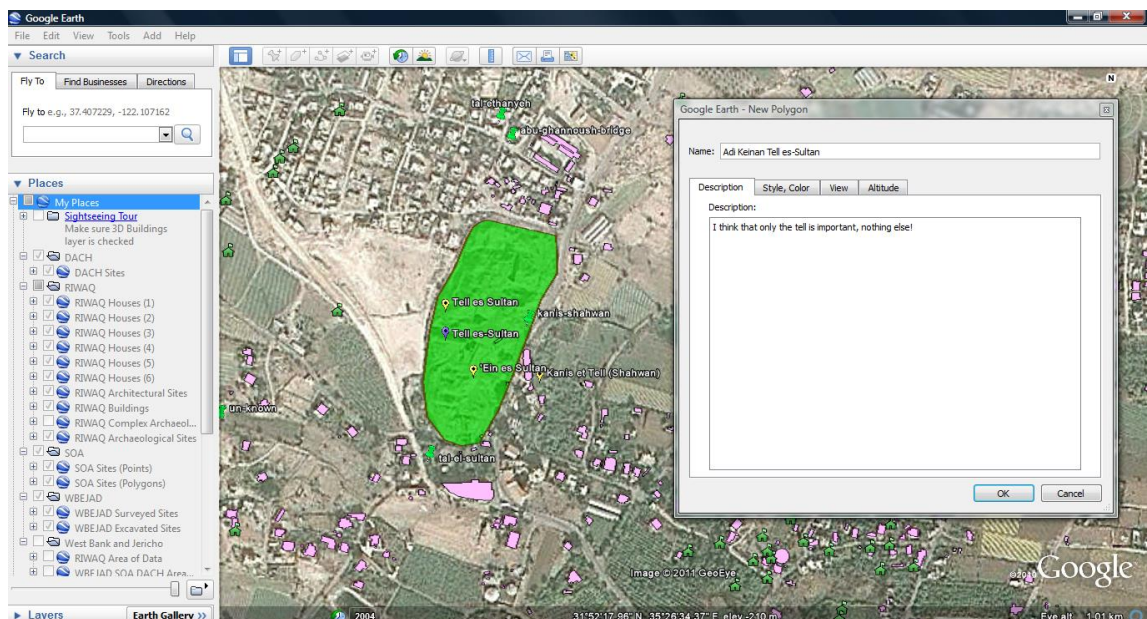
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This task relates to one of the most important sites in the Jericho Oasis: Tell es-Sultan. Expand the 'DACH Sites' layer, search for Tell es-Sultan in the list of sites on the sidebar (about half way through the list), and double-click it to zoom into that site:





In your opinion, which area should be the protected zone of Tell es-Sultan? Please demarcate a boundary for your proposed protected zone of the site by creating a polygon of that area. Use any of the layers that may be relevant for your decisions. Call the new polygon 'YOUR NAME Tell es-Sultan', and in its description please explain why you made that choice:



Save it as a KMZ file on your computer.

Do you have any comments about this exercise, such as about the process of demarcating cultural heritage management zones, decisions made, etc?

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