

## MANAGING CULTURAL AND NATURAL HERITAGE RESOURCES: PART II – A PROPOSED MANAGEMENT TOOL

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### Abstract

Part I provided a background to the present Part II which has a focus on the practical requirements and the international experience in the broad and growing field of heritage management. All World Heritage Sites require management plans (as stipulated by international agreements defined by UNESCO and its World Heritage agencies). However, it is difficult for them to find comparison cases that are directly relevant to their management problems. This shortcoming could be overcome by a database on heritage management as described in this paper. As the support tool is as yet incomplete, further work on it is suggested.

**Key words:** *space, conservation, heritage, modern architecture*

### Introduction

The structure of the two parts of the paper reflects its dual intentions – Part I provides a broad review of current changes in the public appreciation and acceptance of heritage conservation (with an emphasis on Asia), as an increasingly broad and important subject; and Part II looks at issues of management and implementation, presenting ideas for a specific management support tool.

The focus of this paper (in its two parts) is on the management of “complex” heritage sites (with or without World Heritage status), with a certain emphasis on developing and transitional countries. The term “complex sites” includes historic cities as much as cultural landscapes although it is almost overly ambitious to include all of this in a short paper.

After this very brief introduction, this paper (Part II) consists of four sections, (i) suggesting a typology of sites and site conditions, (ii) principles of good site management, (iii) an outline of the proposed internet-based tool, and (iv) ideas for completing the research work.

### 1. Typology of Sites and Site Conditions

Any heritage planner or manager meeting the challenge of drafting a site management plan would probably be looking for good examples, in parallel with the preparatory works for the job at hand. Given the very different characteristics of any of

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the more than 800 WHS, it would be necessary to look for those sites that are similar the one at hand, because only a good example of a plan for a relevant site would be useful, and not any plan. In addition, any of such newly established management plans and their management agencies would benefit from working relationships and exchanges with similar sites and their agencies. To some extent, this exists (as documented by the WHC in its website), but – so the author’s own experience – there are far too few such exchange arrangements among similar sites and their agencies.

It does not require much imagination to set up criteria of comparability to form groups of heritage sites for research purposes or as a basis for exchanging practical experiences – such as, for example, sites in the same or similar cultural regions, with similar climatic conditions, sharing similar features of economic development of the country, and common historical features. Furthermore, it would be useful to compare only truly similar places – as far as population size, physical fabric of the site (the ancient city core, for example), ethnicity of the “site-owning” community are concerned, and/or similarities in tourism potential and experiences with managing growing tourism influx. This would probably lead to comparing and evaluating the newly established administrative arrangements among those heritage management agencies that are entering into cooperative agreements. Without such fine-tuned criteria, exchange and co-operation arrangements would not be very meaningful.

The ongoing research work (which is featured in section 4 of this paper) demonstrates the usefulness of having access to a multi-criteria database to facilitate all kinds of management arrangements ranging from the structuring of a management plan being set up to organizing functional partnerships among similar heritage sites.

“Revitalization” probably is more important to city managers than heritage conservation. The term may be used as one of the criteria rather than a single category in the proposed typology. This term defines the crux of the problem. It comprises a broad mix of several objectives, in its general emphasis on inner-city consolidation, with or without much emphasis on historic conservation which is therefore listed as the last of the five points in the list below:

1. Economic revitalization of (formerly vibrant) historic centres – which is likely to be the top priority issue, in itself a multi-criteria challenge, and inevitably interlinked with other issues that are shown in this list;
2. Overcoming infrastructure deficits by upgrading and modernizing the housing stock in older quarters, in order to support the economic revitalization process;
3. Environmental management with emphasis on water supply, drainage, wastewater, and solid waste management – with the same intention as the one in Objective 2;
4. Social structure improvements in degraded inner city areas – either as an objective in its own right, or as a complementary objective to Objectives 1-3 above, or Objective 5;
5. Protection and care of historic urban fabric, including effective methods for carefully integrated and sympathetic infill.

Even if economic revitalization were not much of an issue (which is rarely the case in old cities), heritage management in inner-city areas would be concerned with mix of issues, as shown in this list of five points, and a clear understanding of the cause-effect chains underlying the observed realities of the area.

## 2. Principles of Good Heritage Site Management

This section deals with three main questions,

- (a) Finding good guidelines for the management of complex heritage sites
- (b) Defining good examples and “best practices”, and
- (c) Showing typical opportunities and constraints for heritage towns.

### 2.1 The *Burra Charter* as a universally applicable guideline

The literature is full of guidelines for the conservation of cultural and natural heritage sites, and many of them have been published in the internet. Perhaps the best and most generally applicable guideline is the so-called *Burra Charter* developed and adopted by the Australian ICOMOS (refer to its website) as a general guideline for heritage management procedures. Updated several times over the past 15 years or so, the process defined by the charter is adaptable, multi-disciplinary, and management-focused.

The main characteristics of a strategic planning and management approach are evident from the following characteristics of the management process suggested by the *Burra Charter*:

1. Linking science and action
2. Employing a multi-criteria analysis
3. Considering options for intervention
4. Including participation / consultation as an essential principle
5. Running the processes of analysis, intervention design, and implementation iteratively, and not in a linear sequence.

### 2.2 Good examples of plans and proven “best practices”

Searching the literature on urban and environmental planning is helpful the methods of cultural and natural area conservation have been converging in many respects with environmental management approaches. Therefore, international associations such as ICLEI (the international council of local environmental initiatives) have much to offer, including a good collection of encouraging examples and “best practices”.

The Asian Academy for Heritage Management (which is an Internet-based network) is an attempt at assisting Asian researchers and practitioners in developing and improving their management plans.

Paying attention to this kind of material should enable the “heritage site manager” to develop the following qualities that would be expected for the practice of heritage management:

- Strategic planning qualities
- Fostering community involvement and ownership of the plan
- Integration with existing institutional framework and existing statutory (and other) plans
- Appropriate analytical tools (social, physical, institutional)
- Computer-aided tools, including database management, analytical cartography (GIS) and CAD, but also

- Appropriate communication tools for keeping the community informed and involved.

Good heritage management plans are issues-focused and action-oriented, with a strong emphasis on the institutional framework and the continuous implementation of management guidelines. The UK based heritage management plans are useful in this respect, and it is a good idea to learn from the way these plans are structured.

A typical example is the plan for the town around one of the first industrial heritage monuments, the famous “iron bridge” of the 18<sup>th</sup> century. The Plan for Ironbridge Gorge is structured much in the same way as most of the other UK-based management plans for urban conservation situations or cultural landscapes, showing the following typical table of contents:

- Vision Statement
- Introduction
- Description of Significance of the WHS
- Current Management of the WHS
- Identification and Evaluation of Key Management Issues (including visitor management, WHS management structures, information management, planning and policy framework, research)
- Programme for Action
- Implementation
- Appendices

### **2.3 Typical opportunities and constraints**

Heritage sites require special measures corresponding to their special nature. This implies special opportunities created by the existence of heritage structures and sites, and special constraints that arise from the type of heritage resource that is part of a larger urban or rural area used by ordinary people – who often expect “normal” development prospects that are un-constrained by heritage concerns (unless they see the benefit of living with such constraints). In this respect, the management plan has to provide a platform of understanding where heritage is seen as an asset to be utilized, and not as a constraint.

For historic towns where the very existence of a well protected historical core area constitutes a great asset for city image marketing, the following opportunities can be developed in harmony with the overriding goal of protecting the heritage resources:

- General tourism (various types) as an obvious future for many heritage sites – which is coupled with great dangers of overcrowding and subsequent loss of heritage values, wherever there is an imbalance of site capacity and tourism volumes;
- Cultural events (concerts, theatre, other shows) as a creative solution with considerable employment effects, but the problem associated with this option is that such cultural events usually only work for certain seasonal peak seasons (summer, or Christmas, or other special holidays, e.g.); hence there are low seasons and troughs to cope with;
- “Knowledge industries” (special university institutes, international exchange centres, international schools) with remarkable potential for sustainable

employment effects; such knowledge industries usually require considerable time to develop, mostly in partnership with universities or international agencies in larger cities not too far from the historical town;

- Conference and cultural tourism – as a better adapted solution than seasonal mass tourism (if conference facilities and knowledge industries are in place or can be created).

In rare cases, the public image and location advantage of a heritage city may be strong enough to attract those service industries that thrive on good image values, such as computer software development, but that would only succeed if a number of other factors were applicable – such as good educational facilities, a sufficiently large population size, to guarantee a choice of other employment and shopping facilities, and a regional position not too far from major economic centres.

### **3. Towards an Internet-based Support Tool for Heritage Management**

This main section of the paper provides the rationale and an outline of a support tool which is likely to attract considerable demand from heritage management agencies and persons. The system has already been developed but it is still not possible to complete it without an explicit agreement with the World Heritage Centre.

#### **3.1 Point of departure: The database maintained by the WHC**

As one of its responsibilities, the World Heritage Centre (WHC) has developed and voluminous electronic database which is readily available in the Internet (<http://whc.unesco.org/pg>). This is a most valuable resource. However, it would be possible, and it appears to be necessary, to improve it further as a basis for better heritage management as well as to enhance the exchange of information among site managers and researchers.

The existing database is continuously being updated and maintained by the World Heritage Centre. There are two levels of access to the database:

- (1) an unrestricted level for any internet user, and
- (2) a restricted and password-protected log-on facility for selected users who need to apply for such access through the WHC.

Members of the general public without special access permission can only perform very limited search functions, although the WHC website provides access to a wealth of information, including related background documents. More of the official background documents are accessible through the log-on facility. However, researchers find the present options for rapid appraisal of comparable samples of WHS restrictive. Therefore, they miss the chance of learning more from the comprehensive documentation of facts and figures that has been compiled by UNESCO and its support agencies.

It is obvious that the database and its contents are copyrighted, because the “state parties” (under the World Heritage Convention) and the World Heritage Centre have a fully justified right to keep control over the use of their data in the database.

At the publicly accessible first level, the WHS database permits some limited search functions that are not sufficient for serious research. Any more ambitious criteria-based search is not possible, except for some basic listing functions, i.e.

- Listing sites by year of inscription

- Listing by country and region
- Listing by broad category (natural, cultural, mixed) and status (“in danger”)

Only these basic search functions are embedded in the Internet database. After exploring the additional facilities after logging on, it has become clear that the added advantage lies primarily in the access to a large variety of background documents, and the possibility of joining certain internet-based discussion groups (for example, for site managers). However, even at the second level of access to the WHS database, the search functions remain limited. Therefore, the need for developing an appropriate research database still exists.

### **3.2 Rationale for developing an additional research database**

This situation leads to a dilemma for anyone who intends to undertake research in this field,

- As clearly, some of the readily accessible data need to be used electronically in an efficient way even if some of such data are classified and subject to copyright procedures (for example, the geographic coordinates of the sites – which themselves may have been recorded on false input data provided by the respective “state party”),
- While, on the other hand, a researcher should be encouraged to develop an independent analytical framework which may go beyond the existing system that is based on the obligations of the WHC and UNESCO (or the mandates of the other international agencies involved, such as ICOMOS, IUCN, or ICCROM). Despite their mandates, none of these agencies would claim to have a monopoly on research that is related to (world) heritage matters.

The idea for developing a database on World Heritage Sites as a tool for students and research staff arose from this situation. The database has been designed in such a way that copyright-protected components are clearly identified, while new components, and electronic links into other databases, have been added so as to create a handy research tool. The purpose was to see how easy or difficult it might be to develop a user-friendly “work bench”-type database. For the time being, it is only accessible to a strictly limited number of researchers, and it is as yet incomplete.

The longer the WH List grows, the more it would be desirable to utilize its research potential in the context of other relevant aspects, especially for better heritage management. For example, to select samples of sites on the basis of various criteria in order to assess trends in the changing inscription practices, or to evaluate management information by region or by type of site. The information needed to support such cross tables is readily available in the individual files for each site published by WHC. However, the search criteria are not as obvious as the data that is available.

While some of the criteria are given by the World Heritage Convention and the associated Operational Guidelines (for example, the categories under which the sites have been inscribed), other useful categories may be determined by the researcher – such as specific site characteristics. Therefore, the task of improving the functionality of the existing database essentially consists of three parts, i.e. (1) compiling all the existing data in a searchable database, (2) adding further useful data (for example on site management), and (3) adding a flexible data manipulation mode.

Initial tests with the existing WHC database on the internet (second level of access) have confirmed that the objectives of the experimental BTU database differ significantly

from the objectives and structure of the WHC database. It seems there is hardly an overlap but considerable scope for complementary uses of both systems.

Figure 1 shows how the research tool would act as a “hub” of information, linking site managers and researchers with the resources that are available through the Internet.

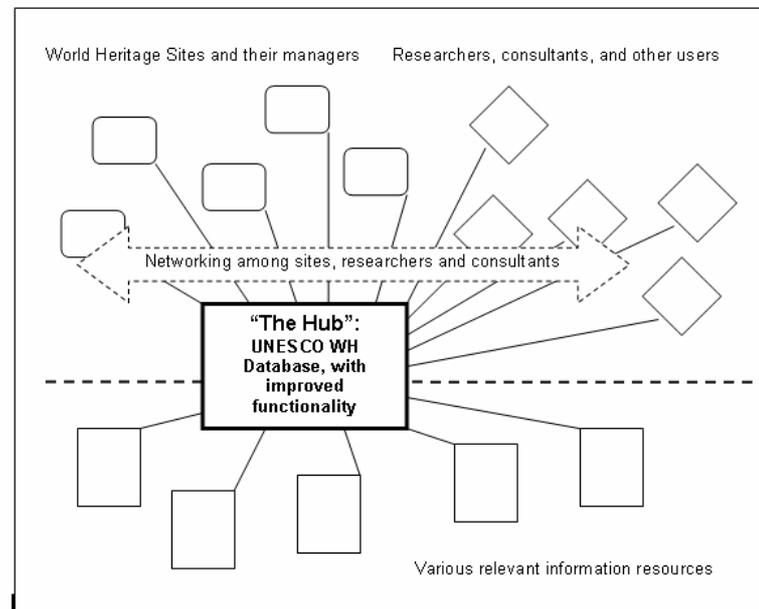


Figure 1: “The Hub” linking relevant information resources and users

The diagram in Figure 2 provides more detail. It illustrates how the experimental database for BTU relates to the information resources that are available from many sources, internationally, nationally, and locally. Many of these resources are on the Internet, so they are easy to access by hyperlinks.

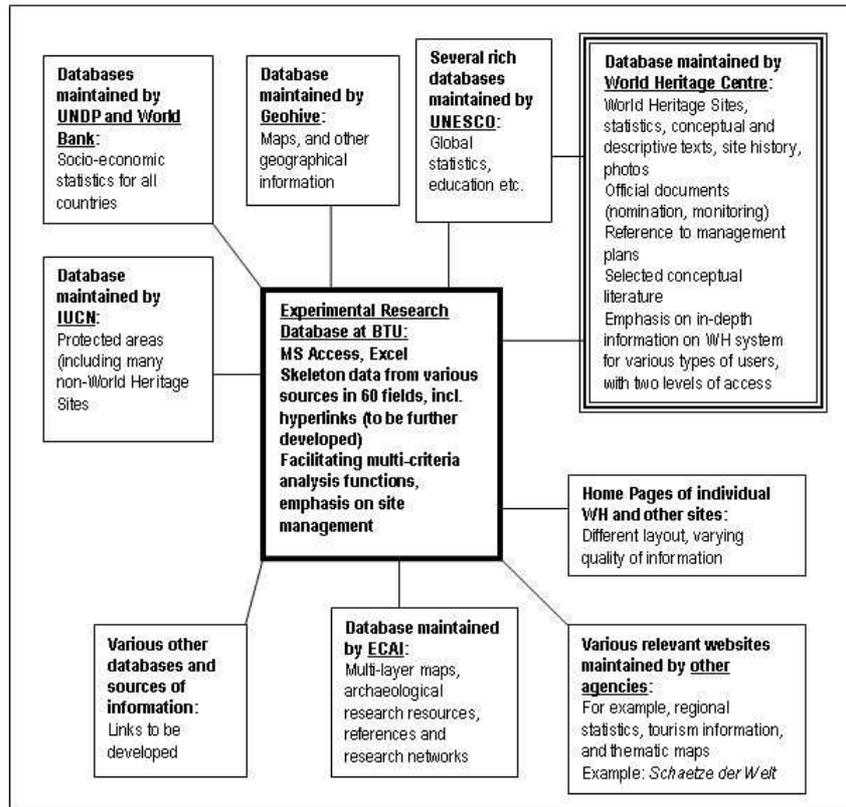


Figure 2: The relationship of the BTU database to existing internet databases  
(Note: existing links between WH Database and others not shown in this diagram)

### 3.3 Features of the experimental database

Technically, the database is a simple “address list” using *Microsoft Access*, which also permits to perform various types of analyses through spreadsheet calculations (using *Microsoft Excel*). All data available for the existing World Heritage Sites (WHS) have been entered on the basis of information available from the WHC database, IUCN, ICOMOS, and a number of other sources.

Table 1 provides an overview of the data in currently 60 fields for each of the WHS recorded so far. The data in the 60 fields have been entered as numerical, Yes/No, or text code values. With this type of information, many criteria-based search functions are easy to perform, but this core database alone would not make much sense without its being linked into the information that is being provided and updated by the agencies in charge. The hyperlinks provide direct links into the existing internet databases so as to facilitate the researcher’s needs for further information. More such links may be provided as more information becomes available.

Table 1: Fields containing data and other information for all World Heritage Sites

Data	Type	Source, remarks
ID number	Text	From WH list
Full and short name of site		Official name as per inscription, short name for easy reference
Country / second country (if applicable)		Country the site is located in, second country in case of transboundary sites
Statistical information on country: size, population	Number	Geohive statistics
UNESCO region	Text	Official UNESCO regions
Subregion		Alternative regionalization by Geohive
Geographical coordinates (x,y)		Better and more precise descriptors to be considered
Year of inscription / modified inscription		Year of inscription on the World Heritage list/ year of modifying site boundaries
Broad site classification by UNESCO: Cultural/ natural site, cultural landscape	Yes/no	
Nomination criteria C(i) – C(vi), N(i) – N(iv), categories of Cultural landscape (i-iii), IUCN criteria I-VI		Cultural/natural criteria according to WH convention
In danger		Refers to the “Red list” of endangered World Heritage sites
Placed on list of sites in danger (year)	Number	Here we may add another field “removed from the danger list (year)”
Various further information on the site: type of threat, age (BC/ AD), area, categories beyond C and N: tropical forest, living historic city centre, industrial heritage, Biosphere reserve etc.	Yes/no	Information collected from WHC documentation and own classification. Possible new categories to be further developed. The ICOMOS analysis (2004) contains some interesting categories to be referred to in this context.
Various Hyperlinks (Geohive, UNESCO Institute for Statistics, UNESCO WHS list, World Database on Protected Areas, “Schätze der Welt”, Site Homepage	Hyperlink	The hyperlinks are particularly important in relating each site and its characteristics to useful information that is available elsewhere in the internet

Figure 3 shows how the user interface of the database enables the researcher to select those world heritage sites that are of interest, based on a selection of criteria.

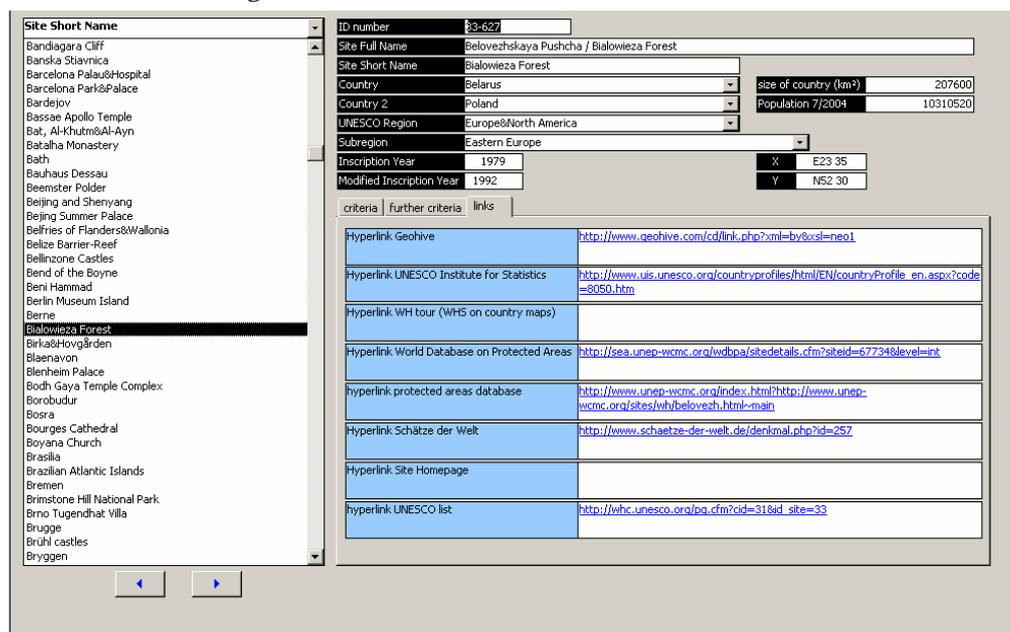


Figure 3: Screenshot of Database user interface, browse function

On the left side of the user interface, there is a list of all World Heritage Sites in alphabetical order; it can be searched by scrolling down. Detailed information on the

selected site is displayed on the right side. The picture shows the three groups of properties that have been included for each site (criteria, additional criteria, and links). Hyperlinks (as shown for the site selected here) are displayed at the bottom of the right side, leading directly to websites with other relevant databases. Thus the database user can retrieve a complete profile on each of the sites, either as an end in itself, or as a basis for further research.

It is possible to search for single sites by entering the name or for groups of sites according to various criteria, e.g. country, or year of inscription. It is also possible to search for any combination of criteria and to sum up the results. The example shows all "cultural landscapes" with criterion (iii), which is that of an "associative landscape". Among the all of the current World Heritage Sites, only fourteen to sixteen would meet this particular search criterion. The boxes on "cultural site criteria", "natural site criteria", "IUCN categories" and so on, show the tags of each of the records in the database.

### **3.4 Work to be added -- compiling specific management-related information**

As of July 2007, the number of World Heritage Sites has already reached 851, with 20-25 sites being added each year in July, when the World Heritage Committee meets. As the database was compiled during the first half of 2005, it only contains data on the then existing 788 sites. The newly added sites would thus have to be added as soon as the research work continues.

The experimental database covers all those sites on the list in early 2005, and the related information in 60 data fields, containing mostly general and contextual information. So far, the specific interests of heritage management have not been included, because that requires additional research into matters that are not readily available through internet search. Moreover, compiling the management-related information would require access to, and permission by, the management bodies in charge of each of the sites, and, in addition to that, an agreement with the World Heritage Centre of UNESCO.

Table 2 explains how the BTU database would be linked into the existing information that is readily available from many other sources. While the first part of the database is complete (as shown in Table 1), the second part, which is specifically designed to contain a range of management characteristics, has not been developed yet.

This will require close cooperation with the individual sites, because management data are not readily available, and some of the related information is confidential. However, most of the management-related information could and should really be made available to a broader audience, with consent of the sites as well as with WHC endorsement. So it would be desirable to compile information on issues like management responsibilities, legal procedures, tourism management, and other aspects.

The work has reached the stage of "in-house" experimentation, with encouraging initial results. The following analytical operations are already fully supported by the system:

- Searching for sites meeting certain criteria, facilitating comparative analyses
- Analyses related to inscriptions and changing focus reflected by the WH List
- Support to possible partnerships among similar sites in different countries
- Updating of the information currently available for each site, by requesting more detailed information from site managers or agencies concerned

- As soon as the second part (on management specifics) is complete, the database would support the following additional operations:
- Country-specific or regional analyses of WHS and their management
- Assessment of management approaches and experiences
- Policy analysis and policy guidance by target-specific monitoring, for example for heritage agencies in developing countries
- Facilitating the dialogue amongst various agencies concerned with individual sites, for example making connections between management agencies in different parts of the world, dealing with comparable problems.

The work will continue for a few months, before making any attempt at bringing the new tool to the attention of other potential users outside the university.

Table 2: Further possible data fields for site management (selection)

Category of property	Text	Categories according to the Operational Guidelines of the WH Convention, as stated in the respective site-specific evaluation by the advisory body
Information on core area (ha) and buffer zone	Number/ Yes/No, or Text	As stated in the evaluation of each site
Ownership of land and assets: Municipality, church, state, private individuals	Typology	Land ownership normally determines the management responsibilities for parts of a heritage site
ICOMOS visits (monitoring, e.g.)	Number, Text	Useful site-specific reference to documentation of ICOMOS representatives' visit (nomination and monitoring), from advisory body evaluation
Management authorities (local authorities, tourism agencies, etc.)	Text	To be developed – for example, integrated with area management authorities, special authority, and agencies in charge of tourism development.
Management constraints (environmental pollution, development pressures, natural disasters/ risks)	Yes/No, Text	From the advisory body evaluation sheet, WHC internet, but not applicable to all sites
Management Plan (as required by UNESCO regulations)	Yes/No, Text	Plus hyperlink to planning documents as far as they are accessible and information on plan data (status, completion, etc.).
Hyperlinks: advisory body evaluation, site maps	Hyperlink	Link to pdf-documents in WHC internet database; Only one or perhaps more hyperlinks may be needed to lead to maps on core and buffer zones, plus short descriptive texts on the form of the various zones.

#### 4. Completing the Research Work?

There is no doubt that the global context of heritage and environmental protection efforts is considerably better now than it was 20 or 30 years ago. However, this alone does not provide practical support to the management of heritage resources. The concrete research initiative would have the potential of providing the much needed operational support to heritage managers who are looking for comparable experiences and “best practices”.

The database project has been discussed in relatively informal terms with the World Heritage Centre but no formal agreement has been concluded. The database is now in a shape that may undergo further extended testing with graduate students, and then externally, with selected potential users, such as heritage site managers.

The author would be happy to undertake further work on the project, and to share his experience with suitable colleagues in an international research context, to develop it further prior to making the internet-based tool available to the appropriate international agencies.

It would then be ready for advanced discussion with the World Heritage Centre and (or ICOMOS and IUCN), with a view at further development as a tool for wider use. Technically, the present *Access* format will have to be replaced by an appropriate internet-compatible format for use in connection with the information resources that are already placed in the internet. The critical copyright question may not be critical anymore as soon as the data manipulation mode is authorized by the international agencies.

This research initiative shows how the potential of scattered multiple data resources in the internet could be utilized more effectively by a relatively simple linker programme where especially the power of the hyperlinks is used to close the gap between the system user and all kinds of relevant information sources. The imagined users of the system are specialists in the fields associated with heritage management, but they need not have much knowledge in computing, because the linker functions would work automatically, under the surface.

In the emerging wider context of implementing heritage management, the proposed tool should be of considerable value to all of those who are trying to find operational answers to the challenge of integrated heritage management.

### **Acknowledgments**

Much of the text in this paper is an abridged version of an earlier publication on the proposed heritage management tool (Kammeier, 2006, which was based on Kammeier, 2005).

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